

A NOMOTHETIC STUDY OF THE SOUTHERN
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SEMINARIAN

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DEDICATION

This research study
is dedicated to

THE YOUNG MINISTER

With all his little neuroses and psychoses, his unhappiness with the ills of the world, his courage and commitment to change what can be changed and his impatience in accepting what cannot be changed, his need for love and his capacity for loving, his tensions that rise from his confrontation with the existential situation, and his occupation with ultimate concerns.

To all the young present day prophets--Isaiah, Amos, and Hosea; the apostles--Paul, Peter, John, and even Mark; the saints--Francis of Assissi, Augustine, and Bernard; the theologians--Barth, Niebuhr, and Tillich; the preachers--Robertson of Brighton, Brooks, Fosdick, and Graham; the reformers--Luther, Rauschenbusch and King. These men of God have had their own pattern of personality and style of life that accounts for their uniqueness and the way they have made their mark on history.

Each minister of the Word in his own particular way, in his own time, with his own endowments and gifts makes his own impression in time. I commend each young minister to the Lord and to the message of his Grace which can build him up and give him his place among all those who are consecrated to God.

TO EACH STUDENT

Who Aspires to the Ministry

I Dedicate

this work

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CHAPTER I

INTRODUCTION

A. The Need of the Church for a Vital Ministry

In an effort to appraise the present needs of the church and its ministry, and to understand what new demands are made upon theological education, we need to see the ministry in perspective to the church and the gospel, and the forces which have shaped its forms and practice, and we need to ask some new questions which are raised by experience concerning ways in which the church and its ministry can cope with its fundamental task in the world. Certain functions upon which the church depends have always been laid upon the ministry: responsibility for the church's liturgical and sacramental life, the preaching of the gospel to the church and to the world, teaching, being a pastor to the flock, and responsibility for administering the church's affairs. This ministry is an activity of the church as a whole, and sharp distinctions cannot be drawn between the clergy and the laity, for the clergy is selected from among the laity and trained by the church for a service that is related to the full range of spiritual needs of the community from which he is chosen. He must be

administrator, preacher, priest, and pastor in the complex and changing life of a community, and must perform the sacred duties of his calling in a setting which requires of him new strategies, skills, and insights. As he goes about his work he and the church will come to an understanding of the strength and the weakness of one another. The ministry will utter the prophetic note at times, and the people will respond; but there are also occasions when the voice of the prophet is not heard nor opposed. If the church is to preserve its witness in a shifting and perplexing world, it must provide not only an adequate theological education, but it must also be concerned about the capacity of the aspiring ministerial student to become an adequate minister.

It will be the concern of this dissertation to study the capacity of a small part of the total ministry of the church as it may be observed in the group who have prepared or are now preparing for the ministry in the Southern California School of Theology at Claremont, California, (referred to hereafter as SCST). The observations will be limited largely to what can be measured by the test procedures that are being used to become acquainted with the traits and capacities of the aspiring students at the time of their admission to the seminary. The tests and the procedures are similar to those used in other seminaries, and the observations derived from this study may be of general value, but they will find their greatest value in the

knowledge of the norms of traits and capacities that prevail among the students who enter the ministry from SCST.

It is important that every seminary know all it can about the seminarians who are in the process of education so that the curriculum of study and experience can be related to the needs of those who are about to assume responsibilities in the church. Before we consider the specific problem that is attempted in this dissertation, the ministry will be considered in its historical perspective as a functional part of the church life.

B. The Problem and Its Historical Setting

As the church re-examines itself as a movement within history, every aspect of its life is brought under scrutiny. The church is not an isolated event, but a very complex religious development which is interrelated with a variety of other movements -- social, economic, and political. The history of the church has been intimately bound up with subsequent history in general and has helped shape and has also been shaped by forces in time. The church has meant certain concrete institutions, patterns of thought and statements of faith, ways of worship, and groups of persons bound together in a certain geographical contiguity and historical continuity. Such groups have shared to a greater or lesser extent, not only in a common religious community, but also in the total life of the world. This

is the "outer history" of the church, and is open to the inspection of everyone. It is that history which meets the eye of the non-participating observer, and the importance and quality of the church as a movement is evaluated on the basis of its effect among certain people at a particular period of time.

But there is also the "inner history" of the church. This is harder to grasp, but it is extremely important for an understanding of the character of the church itself. When the church is viewed from within, it may be seen as a community sharing in a common loyalty, in common norms and goals and aspirations. It is the sharing of a perspective, a way of seeing things. This constitutes a social conscience that motivates the life of the church and sets it out as a moral force. Moreover, there is the common memory of crucial events in the life of the community which are precious, and the loyalties and aspirations of the church are inseparable from the memory of those events. This is not only history, but it is theology, and it identifies the religious character of life in the stream of history. It is the "inside" of the church.

If we look at the church from the "outside" we may see only the force of an organized movement of people, but as we view its "inside" activity we recognize dynamic qualities that make it more than the momentum of people propelled by strong prophets and leaders. Seen from this present

moment, much of what we have delineated as elements of a religious movement in history is dependent on our view of the church as a community of believers, and we should look at it both from the "outside" and the "inside".

The church we are viewing needs to be defined and religious people do this in various ways. The principle of the creative response to the gospel, the acknowledgment of the sovereignty of God, the understanding and exercise of faith, the proclamation of the Word -- these are elements of the community that are called the church. Those who are in it engage in continual conversation with the past as well as with the present, while they seek to be loyal to the One who is Lord of the community. The church is also a community which is being redeemed and is at the same time a means of redemption, as it is a source of grace to each other and to all men. There is the dialectic between loyalty to the past with its traditions, and the protest against absolutizing the forms and institutions of those traditions. It finds its continuity in maintaining a witness to its gospel. The church is indebted to its prophets who have come forth at the right time. Its life is in God, and its historic existence is preserved only as it remains open to God's judgment and the leaven of the redemptive process.

No aspect of the church's life can be regarded as more important than another. The Gospel or the Word,

which is the content of theology, is constantly being rescued from the obscurities and distortions of its most ardent interpreters and needs to be restated to the man of the current decade. Here the church has needed its scholars and its preachers.

The members of the community are spokesmen for a succession of renewed comprehensions of the gospel, and it is here that the church is most creative. If God continually meets man in new situations, then faith must ever be expressed in relation to each new situation. The witness of the community to the gospel springs from a dialogue between God and man, as he responds in the faith of his particular place in history. Thus the gospel demands continual reinterpretation in terms of the world in which it is to be proclaimed by members of the community and its chosen leaders.

Man's response in faith to the gospel is the active element of the community and may be seen in the feeling of responsibility of the believer toward his neighbor as he loves God and his neighbor as himself. No believer can exist merely unto himself; he always stands in the church, which is a mutual ministry of believers. This common life cultivates a sense of vocation in which there can be no sharp distinction between what is religious and secular, or the tasks of the clergy and the laity. The Roman Catholic view of the distinction of clergy and laity, and of the

role of the hierarchy, differs radically from the classical Protestant doctrine of the "priesthood of all believers."

The Protestant "minister", "preacher", "pastor", "priest", or "rector" is set apart for the performance of certain functions in the church, but the clergy and the laity are on one level in their responsibility to the gospel and to each other in the community of faith. For the sake of organization, discipline, and perhaps of tradition, there may be a hierarchy in the church, but the distinction is largely functional.

The movement of the whole church in history, and this includes the world religions, can be measured only in relation to the understanding of faith and the mutual responsibility of believers within the community. This has led in various directions, and the growing edge of the church may be seen in the strength of its concern for the needs of the world and its ability to respond in effective ways. In services of worship, it has meant the use of the language of the people, and the creative use of art, music, and liturgies, so that all might share in the common worship. This has been a recurring activity as the people have been moved to contribute the best products of their soul to the glory of God. It has meant the revival of preaching, the proclamation of the Word, and the cry for social justice. It has meant a continuous emphasis on the translation of the Bible, that all might be confronted

directly with the historic witness, and from this has come a vast religious literature. It has led to a profound concern for public education, as a means of creating a literacy that is basic to the arts, science, and a fulfillment of life for the constituency of the church and the salvation of the world through a devotion to the truth. It has led to a new interest in ecumenical life that has moved the Christian world to a sense of brotherhood that gives some hope of overturning some of the barriers that have existed since the Reformation. It has also made the people of all religions concerned for the inequalities and injustices that exist among all peoples and nations.

While we have considered some of the aspects of religion as a movement in history and the dynamics of religion as a spiritual force that is seen in the interpersonal relationships of the community of believers, we cannot escape the part that individual leaders have had in the development of the religious community and the importance of a strong vital ministry. No great era of advance has occurred in any department of church life apart from the strong individuals who have been able to communicate with the needs of the people. While preaching remains perhaps the most dramatic, most effective, and most used means of communicating the gospel, an increasing number of persons have made significant contributions to the spiritual growth of the community with their concern for meaningful worship,

pastoral care, religious education, business management, church architecture, and seminary education. All of these concerns are an outgrowth of a new searching for an understanding of the gospel and a grasp of the objective foundation of the ministry and the church. This search has led to an effort to understand the contemporary world more fully and to make the gospel relevant without compromising it.

The modern church in the modern world has become larger, more complex, and more highly organized than a century ago. In spite of an increasing awareness of the reality of the church as a close-knit fellowship and a growing concern for its role as a ministering institution, a greater burden has been placed on the minister and his role in the church. Such activities as religious education, pastoral care, and administration have risen to the status of specialities within the church life and this has required every minister to be much more than a preacher. If a local church is affluent enough, ministerial specialists may be employed to attend the various needs of a community; but if this is not the case, then one minister must supplement his own efforts by skillful direction of the mutual ministry of believers in the community of faith. The danger is that ministers are so poorly trained that they are unable to grasp the scope of their task, or they become so specialized and involved in administrative detail that they lose contact with people. This has been the experience of business,

industry, and education as they have become more complex, and they have tended to account for their difficulties as a failure of management and to expect to solve their problems through the development of a new genius of leadership. The focus of attention in science, industry, education, and religion has been in recruiting and training the most intelligent and capable youth to their ranks.

It is possible that the church is displacing some of its cynicism on the minister as the question of his adequacy is raised, but ministers are projecting some of their feelings on the church in such instances as the occasional minister who expresses his disillusionment with the church.¹

The tension between the gospel and the world is reflected in the difference that now exists between the image of the ministry that has been created in the church and the number and quality of young men who accept the vocational challenge that is offered by the church. As the church must be critical of its own inner life, it must also seek an adequate leadership among its people in order to meet the religious needs of its expanding community.

If the church is to have a strong ministry, there must be a realistic evaluation of the talent that is presented by the candidate for enrollment in the ministry.

¹"Why I Quit the Ministry."

For a student to say that he has a "call" is not an adequate qualification for acceptance as a student for the ministry, when the doctrine of the priesthood of believers extends the area of Christian vocation to so many other fields of service in which he can answer the "call". The person who aspires to the ministry should have a sense of responsibility to the whole Christian community, but his own skills should be appraised. He needs to be intelligent, as well as have a capacity for leadership. He must be able to discipline himself intellectually, and learn the necessary skills -- counseling, preaching, teaching, administration, and so on. As an approach to meeting this issue, we will see some of the approaches that are made in the church to know the kind of person who is a candidate for the ministry.

CHAPTER II

MODERN APPROACHES TO EVALUATING THE MINISTER

A. Psychological Testing in Seminaries

Theological schools have been using psychological tests in one form or another since about 1921, according to a report by Dr. John B. Billinsky, of Andover Newton Theological School, to the American Association of Theological Schools in 1956.¹ Very little progress has been made in establishing the various testing procedures as useful instruments since that time. He lists several reasons for this situation. First, testing in theological schools has been handled by men whose training in psychological measurements and statistics was either poor or completely lacking. Many of these men were also younger men, with limited pastoral experience, who lacked a realistic interpretation of the ministry upon which relevant criteria might be based. Secondly, the tests were standard tests often poorly chosen, and none of the tests were even validated for the purpose for which they were being used. Thirdly, the battery of tests was changed so frequently -- often for no valid

¹"A Panel Discussion . . ."

reason -- that it was impossible to accumulate correlative data. Fourthly, there had been no serious effort to bring together those who test seminary students so that information could be exchanged and correlated. Finally, previously there had never been a follow up study of students tested during their seminary experience to validate the interpretations of test results or of predictions that were made regarding the performance of the student in the seminary or the pastorate.

Dr. Billinsky makes these points in spite of some isolated beginnings in the use of tests in connection with theological schools. It may be allowed that up to that time there was very little indication that educators really knew what they were looking for in testing. The testing was rather narrowly limited to the appraisal and counsel of those who were admitted to the seminary, and the criterion was usually his capacity to do well as a student. In the selection of students it was logical to assume that those with a high aptitude score and a high grade point average would do much better than those with low scores. The problem that was overlooked was that failures occur more because of lack of motivation, or because of personality difficulties, rather than lack of capacity; and these facts needed to be considered.

It follows from Billinsky's observations that the aim of testing seminary students must be to correlate the

aptitude, motivation, and personality scores, if any practical criterion of success in the seminary is to be determined. It is of some value to predict that a student will be successful in graduating from a seminary, but it is more important to know what kind of a minister he will be. This sends us off in the direction of inquiring about the kind of work he will be doing in the ministry, and about the criterion of success that grows out of the demands of the church in the world as the seminary graduate becomes a leader in this community of believers.

Here we see something of the scope of testing that is required if we are to answer the questions that are posed to seminary educators. It should be remembered that testing alone is not the answer to our problem, but it can help to point up problem areas and indicate trends of movement. Research must be concerned with both ends of the problem of the ministry. That is, it must seek to know the potentiality of the ministerial candidate and at the same time to connect the beginning to the end by relating the ministry to criteria of effectiveness and success in parish work. Some elements defy measurement and require more than simple testing, so that some longitudinal studies of the ministry must extend from the student's candidacy to the full employment of his skill and personality in his role as a minister.

Among the factors that require extensive research are the reactions, attitudes, or traits that constitute social intelligence (or empathy), as suggested by Thorndike,² Darley³ and Guilford.⁴ Another study requiring an observation of the minister over a period of time would be the correlation of personality factors, intellectual ability and functional skills observed among ministers in the seminary with the effectiveness and success of their later performance in their parish ministry. Blizzard⁵ made a study of ministers in the parish involving the personality structure appropriate for the various sub-roles of the ministry, but it seems that studies involving the placement and effectiveness of the minister needs to have their beginning with the earliest information such as may be available at the time the minister first begins his preparation for the ministry.

Dr. Harry DeWire,⁶ Executive Director of the Ministry Studies Board of the National Council of Churches, stated in a report that the most persistent question involved in the selection and training of ministers is whether it is possible to predict "success" or "failure" in the

²Thorndike, p. 65.

³Darley, Clinical Aspects . . ., p.65.

⁴Guilford, Personality, p. 395.

⁵Blizzard, pp.25-32. ⁶DeWire, pp. 1-9.

ministry. Until acceptable criteria are found that can define what is expected of the minister, it is difficult to place any meaning to the measures of competence that are used to measure the minister. While these criteria are important, the search must proceed from datum and research that is made in the seminary where the minister receives his vocational beginnings. Those seminaries that expect to do effective and meaningful recruiting or to be self-critical as to the relevances of its curriculum and the seminary experience of its students to the needs of the church should place some emphasis on research. This should begin by using the instruments of testing intelligently, both in appraising and counseling the students who have been admitted, and by assessing the effectiveness of the seminary as an institution of the church. The first requirement of using a test in each seminary is to know the norms, standard deviations, and correlations of the tests to important criteria. Some progress has been made in this direction and is reported through the Department of the Ministry, National Council of Churches.

B. The Growth of the Testing Movement

While testing was used experimentally by many different seminaries, the first move toward discussing their uses and sharing the results was made by the Department of the

Ministry in 1954.⁷ A letter was sent to the 107 accredited and associated member schools of the American Association of Theological Schools who were listed in their Bulletin of 1950. The purpose was to gain a comprehensive description of how tests were used to discover and enlist students, how undesirable and unpromising students were screened, and how tests were used for counseling. Eighty schools responded, but only fifty-three were using psychological tests; however, twenty others indicated intentions to begin using them.

Following this survey, a national conference of seminary representatives was convened to share the problems of testing and plan for their use. The development of testing progressed in the seminaries, as it did in the entire educational field. It followed that the Ministry Studies Board was created through a grant from the Eli Lilly Endowment, Inc., for the purpose of integrating an inter-denominational approach to the problem. A new survey of seminaries was made and a report was issued on December 12, 1962.⁸ A summation of the two reports of 1954 and 1962 follow:

⁷Million, pp.85-99.

⁸"Psychological Tests . . .," pp. 1-4.

	<u>1954</u>	<u>1962</u>
Number of Seminaries	107	118
Number reporting	80	112
Number using tests	53	92
Number using no tests	27	20
Number of different tests used	46	72
Greatest number used by any one school	8	11
Number of schools using only one test (In each case, the test being used is either a personality inventory or an achievement test)	10 (12.5%)	11 (11%)
Average number of tests per school	3.3	3.7

The difference between the reports of 1954 and 1962 are largely in the greater number of seminaries that reported; however, there were several changes among the fifty-three seminaries who reported in 1954. These seminaries showed the following changes:

Seminaries decreasing the number of tests used	24
Seminaries eliminating the tests	5
Seminaries increasing the number of tests used	16
(one increased the number of tests from 0 to 18)	
Seminaries without change	11

The greater number of seminaries reporting in 1962 may be due to the fact that most of them began their testing programs after 1954. There was also an increase in the

number of tests used, but a few tests have found popular use among the seminaries. These tests are used in many educational institutions because of their greater standardization and validation among many schools and several professions. Unfortunately, these tests have not been standardized or validated for use with ministers or with theological seminaries, even though some good research is being carried on at the present time to determine the predictive value of these instruments. Clifford Davis⁹ (Presbyterian), Victor Benson¹⁰ (Lutheran), Carrol Wise and John Vayhinger¹¹ (Methodist), and Duane E. Spiers¹² (Disciples), are conducting extensive and valuable research at the present time.

The tests reported to be used most frequently among the seminaries in both reports and the per cent of seminaries using each test in 1962 are:

	<u>1954</u>	<u>1962</u>
Minnesota Multiphasic Personality Inventory	21	52 (65%)
Strong Vocational Interest Blank	21	28 (31%)
Miller Analogies Test	3	15 (17%)
Graduate Record Examination	3	15 (17%)
Standard Objective Rorschach Test	8	17 (19%)

⁹Davis. ¹⁰Benson, Committee for Research . . .

¹¹Vayhinger. ¹²Spiers.

	<u>1954</u>	<u>1962</u>
Guilford-Zimmerman Temperament Survey	9	13 (15%)
Ohio State Psychological and Academic Test	8	14 (16%)
Theological School Inventory	0	63 (70%)

It may be noted that a new test, The Theological School Inventory¹³ has entered the scene since 1954. The Educational Testing Service began the development of this test in 1954 with the purpose of developing an instrument for use in guiding individuals who are considering the ministry as a profession, and as a means of selecting and counseling students. It was used on a trial basis beginning in 1958, and extensive effort is being expended to develop a high level of reliability.

Some seminaries are engaging in studies designed to assist in the usefulness of their tests. Most of these studies are steps that must be taken by all seminaries if they are to relate the seminary curriculum and experience to the needs of the church and the minister. It was because of this need that it seemed important to attempt a study of the tests used in SCST.

C. The Use of Tests in the Southern California School of Theology

¹³Kling.

The Southern California School of Theology withdrew from the University of Southern California in 1956 and located at Claremont.¹⁴ Only the students who have been enrolled since that time are included as subjects of this study. A quantity of records have accumulated in the files of students who have enrolled or have applied for enrollment with the intent of becoming ministers or religious education directors. Some of these candidates for the ministry have been rejected, but most of them have been enrolled as seminary students. Many of the students have been graduated as ministers, some students have failed and have been dropped from enrollment, a few have changed vocations and have withdrawn, and a large number of students have continued on the active roll as seminarians. These records have been compiled for the purpose of screening, counseling, and evaluating students. The individual file contains the application of the student with biographical data and personal references. In establishing a student file, a report of undergraduate and transfer credits and the report on the Minnesota Multiphasic Personality Inventory (MMPI) is included in the file prior to the admission of the student. After the student's admission, the Graduate Record Examination (GRE), Guilford-Zimmerman Temperament Survey (GZTS), and a Vocational Interest Test record are added to his file.

¹⁴ Southern California School of Theology, p.19.

In a few cases, all or part of the Graduate Record Examination, and, occasionally, other test scores are available prior to admission. The students who were admitted prior to 1958 were given the Kuder Preference Record, but since 1959 the Strong Vocational Interest Blank (SVIB), has been required. The cumulative academic record of the student after his enrollment also becomes a part of the data in each dossier. This body of data forms and impressive library of life histories which are alive for a time and then are moved into the oblivion of archives. Each test serves its passing purpose, but there is no systematic measure of central tendency, variability, or relationship, to give maximal meaning to the scores of those who take the tests. The present testing program provides a rich fund of data to form a description of the kind of students who are candidates for the ministry in this seminary and thereby to lend some light in understanding the task that is assumed by the seminary in preparing students for an effective ministry.

CHAPTER III

THE DESIGN FOR RESEARCH

A. The General Purpose

Some general questions are the basis for beginning this research: what can be learned from the testing program and the student records about the seminary students, and what can be learned from the students about the testing program and student records? Has the seminary used, or failed to use the information available for the guidance of the student? Does the material say anything about how the student is likely to perform in the various roles and functions of the ministry? Are there any hints about the traits, aptitudes, and interests that would be useful for the church in the selection of students for the ministry? Does the material reveal any relation of the academic abilities and personality traits of the student and his experience of the seminary bill of fare to his personality needs and the requirements of the ministry? What changes occur in the personality and capacities of the student in the course of training?

The research that is required to answer these questions is extensive and cannot be completed in this project.

This dissertation will be limited to a nomothetic study of the data that are available from the tests that have been administered to the students who have been registered at the school as seminarians, and from other tests that may be administered to complete a study of personality changes that may occur in a seminary group over the period of training.

B. The Comprehensive Design

The purpose of this investigation is to examine thoroughly the data derived from the accumulated files in order to determine the norms, central tendency, and variance of SCST students, as measured by the psychological instruments that are presently used in the admission and counseling procedures of the school. Since the battery of tests now used are the Minnesota Multiphasic Personality Inventory, Guilford-Zimmerman Temperament Survey, Graduate Record Examination, and the Strong Vocational Inventory Blank (referred to hereafter as the MMPI, GZTS, SVIB and GRE), it was decided to study the data from these tests and not to use the data from the Kuder Preference Record, which was dropped in 1958.

The areas for investigation are:

1. A statistical study of test data in order to determine the norms of SCST students, as measured by the MMPI,

GZTS, SVIB, and the GRE.

2. A statistical study of a seminary class in their junior year, and at the time of graduation, to observe some of the changes that have occurred in the time of their student experience.
3. A comparative study of the married and single students and the differences in personality characteristics, interests, aptitudes, achievement, and grade point averages.
4. A statistical study of the personality characteristics and vocational interests that distinguish the student who continues in the ministry from the student who changes vocations.
5. A statistical study of the personality characteristics and vocational interests that distinguish the student who fails and is dropped from enrollment.

C. The Method of Gathering Data

Academic information and individual tests scores on former and present students is available through the registrar's office. In order to get all the necessary information for an actuarial study of individual records, a list of items was set up on a nomothetic data form (Appendix A). In conformity with seminary policy that no student have access to student files, a secretary who is normally admitted

to these records was employed to gather the data. Anonymity was preserved by numbering each record instead of using names.

A special group study of the Senior Class of 1963 was made by separating these numbered cases and doing a re-test of the individuals with the MMPI. The retests were voluntary. The norms and test results from other schools using the MMPI, GZTS, SVIB, or GRE were sought. There was a scarcity of schools where these data had been calculated. Fuller Theological Seminary, Pasadena, California, graciously supplied the completed forms of the MMPI taken by the latest class of incoming students, and these were compiled and calculated in the same manner as those from SCST. The Pacific School of Religion, Berkeley, California, supplied the completed forms of the SVIB taken by the latest class, and this data was processed in the same manner. The Christian Theological Seminary, Indianapolis, Indiana, is engaged in a research project testing the predictive validity of the scores obtained by the battery of tests used in that school,¹ and they supplied the mean scores of students tested by the GZTS. Two denominations maintain a program of psychological testing as a cooperative service to their seminaries and are able to announce the norms that apply to the students who are enrolled in

¹ Spiers.

studies leading to a ministry in those denominations. The United Lutheran Church² supplied the norms of the MMPI as it is applied to men for the ministry of that church. The United Presbyterian Church is engaged in similar research on a denominational level and supplied the norms for the MMPI³ and the SVIB,⁴ as they applied to the theological seminaries of that church.

A retest of the 1963 graduating class of SCST was needed to observe the changes that occur among the seminary students during the course of the seminary experience. The MMPI test was selected as the most reliable test for this purpose. The test was distributed at the end of the school year when the results would not be affected by the anxieties connected with the completion of academic requirements. The test was given on a voluntary basis and was accepted by all members of the class, although some expressed a dislike for psychological tests, and several were slow in completing the test.

D. A Definition of Norms

It has been necessary for those who have evaluated the test scores of individual students in SCST to interpret them in relation to national norms for individuals, or

²Benson, Personal correspondence. ³Davis.

⁴Counseling the Candidate.

with local norms that have been established by other seminaries. Even though national norms and other norms are valuable for purposes of comparing one group with another, it is more important to know how an individual compares with other local individuals who have been exposed to similar experiences. The norms that are to be determined for each test that is used in this study will be the mean averages and standard deviations of the total number of persons in the seminary who have taken the test as a requirement of being admitted as students in the seminary.

The criterion of student success is graduation from the seminary. Many other unmeasured factors, other than academic excellence, may be involved in the grades received by an individual student, but the evaluation of each student in relation to all other students is expressed in terms of letter grades. The class standing of students is on the basis of grade point ratings. (Grade point average: A = 4, B = 3, C = 2, D = 1, Incomplete = 1 and Failure = 0 points.)

E. The Measuring Instruments

1. The Minnesota Multiphasic Personality Inventory

The MMPI is a questionnaire-type test originally constructed to measure tendencies toward various kinds of

psychiatric difficulties. The authors used the empirical method in constructing its scoring keys.⁵ Starting with a large collection of 550 questions about feelings, attitudes and symptoms, they asked clear-cut diagnostic groups of psychiatric patients to answer the questions. Another group of men and women, similar to the psychiatric patients in age and social class, but not mentally ill, answered the same questions. The authors then tabulated the answers each group gave to each of the 550 questions. Only the items that had a clear, statistically significant difference in frequency of response between psychiatric and normal groups were scored as indicators of the psychiatric trend.⁶

For the MMPI,⁷ nine scales have been constructed in the above manner to measure tendencies toward different kinds of psychiatric difficulty. The basic scales and the personality characteristics they attempted to measure were: 1. Hypochondriasis (Hs), 2. Depression (D), 3. Hysteria (Hy), 4. Psychopathic deviation (Pd), 5. Psychasthenia (Pt), 6. Schizophrenia (Sc), and 7. Hypomania (Ma). A tenth scale measuring Social Inversion (Si), has been added and is included in testing schedules.

⁵Meehl. ⁶Hathaway, "Construction of the . . .," p. 58

⁷Dahlstrom.

The first three scales (Hs, D, and Hy) are referred to as the neurotic triad, and the last four (Pa, Pt, Sc, Ma) are called the psychotic tetrad. The other three scales (Pd, Mf, and Si) are measurements of social tendencies. Three validity scales are included in each test to measure the response set of the person being tested. They are labeled K, F, and L. A fuller description of each scale will be included in Appendix B.

2. The Guilford-Zimmerman Temperament Survey

The GZTS measures ten traits that have been identified by factor analysis. The traits themselves are: General activity (G), Restraint (R), Ascendancy (A), Sociability (S), Emotional stability (E), Objectivity (O), Friendliness (F), Thoughtfulness (T), Personal Relations (P), and Masculinity (M). The authors of this instrument assess the reliability of each test at about .80. They say the intercorrelations are "gratifyingly low," which they explain as meaning that the tests have a high reliability in measuring with some precision what they are supposed to measure without overlap on other traits. Although the intercorrelations between the traits are generally small, one is as high as .61, some are about .40, but others are quite low.⁸

⁸Buros, 4th, p. 49.

The test is a three hundred item questionnaire that may be answered "Yes", "?", or "No". One point is given for each response in the direction of the trait. In general, a high, but not, usually, extreme degree of a trait is good, but it must be considered along with other qualities. Thus, a high general activity score is good if combined with reflectiveness, and bad if combined with emotional instability or contempt for others. A fuller description of each trait category will be included in Appendix C.

3. The Strong Vocational Interest Blank

Probably the best known measure of vocational interests is the SVIB, first published in 1927 by Edward K. Strong, Jr. at Stanford University. The test makes use of the fact that people in a particular occupation tend to have roughly similar interests. It is then assumed that a person having the same pattern of interests will find success in that field, whereas one having dissimilar interests will not.⁹

Test items were selected in the following manner:

Frequency of response of "like," "indifferent," and "dislike," to a given test item by the successful

9

Cronbach, p. 340.

man in a specific occupational criterion group was compared with the response of the men-in-general group to the same item. The item responses were then assigned a numerical weight from plus four to minus four depending on the degree to which they differentiated the men in a given occupation from men-in-general.¹⁰

The blank consists of four hundred items. In addition to items having direct reference to occupations, there are lists of amusements (golf, fishing), school subjects, activities (repairing a clock, hanging horses), and a list of peculiarities of people. Other parts of the inventory provide opportunity for the examinee to indicate which three from a list of ten activities are most liked and which three are least liked; to express a preference between two items; and to estimate his present abilities and characteristics.¹¹

There is one form for use with men and another for use with women. Forty-seven occupational scales are obtained from the men's form; twenty-seven scales from the women's form. Two hundred and sixty-three test items are common to both forms.

Scores are obtained by translating raw scores into standard scores based on occupational groups. The letter grades A, B+, B, B-, and C are used more frequently than are the standard scores. A mark of A indicates that the person has interests similar to those of most individuals

¹⁰Layton, p. 6.

¹¹Strong, pp. 56-57.

successfully engaged in that specific occupation, while a mark of C suggests the opposite.

On both men's and women's profile sheets (sheets which show an individual's score on each occupational scale), every scale includes a shaded area. Scores falling within these shaded areas are considered to be indeterminate for the particular scales as the chances are two out of three that they have occurred by chance.

In addition to occupational scales there are three non-occupational scales in the SVIB; Interest Maturity (IM), Occupational Level (OL), and Masculinity-Femininity (MF). The IM scale indicates maturity of interests. Thus, a high score suggests that the individual's scores on occupational scales will probably remain relatively stable as he grows older. The OL scale reflects the socio-economic level at which the person's interests would most likely be satisfied, for example, a low score indicates interests similar to those of manual laborers. The extent to which professed interests are similar to those of men or women is shown by the MF score; on both forms, a low score suggests interests similar to those of the opposite sex.¹²

Strong classified the forty-seven occupations by separating them into eleven groups on the basis of related

¹²Layton, pp. 18-19.

occupational interests. Scores on occupations within a group show higher correlations with each other than with occupations outside the group. His categories are presented below.

STRONG'S CLASSIFICATION

- I. Biological Sciences
- II. Engineering and Physical Science
- III. Production Manager
- IV. Technical and/or Skilled Trades
- V. Social Service or Welfare (Uplift)
- VI. Musician
- VII. Certified Public Accountant
- VIII. Business Detail
- IX. Sales or Business Contact
- X. Verbal or Linguistic
- XI. President of Manufacturing Concern¹³

Strong advocates the consideration of those interests in which the subject makes an A score as primary interests, B+ scores as secondary interests, and B scores as tertiary interests. A study of the total pattern permits a judgment based on the over-all picture and draws attention to combinations of interests.

The Strong test has high validity as a test for vocational guidance, and for selection of employees. It has a low correlation with grades in school, but it does measure a factor of significance in school success. The test does improve the prediction obtainable from intelligence measures alone. There seems to be a definite correspondence

¹³Layton, p. 12.

between interests and differences in achievement between different courses, indicating that students do better in subjects that are most related to his vocational interests.

4. The Graduate Record Examination

The Gre was developed in 1937 by the universities of Harvard, Yale, Princeton, and Columbia, working under the sponsorship of the Carnegie Foundation for the Advancement of Teaching. William S. Learned directed the project. Their purpose was to "devise a practical means for determining the fitness of applicants for advanced study."¹⁴ The tests were prepared in order to help find out to what extent beginning graduate students actually possessed the working knowledge prerequisite to successful graduate study.

Knowledge and ability . . . cannot be taken for granted solely from records of study credited over several years; the graduate school needs proof that a student's resources supposed to have been accumulated during this period still exist and are adequate Acquired knowledge is the best guarantee of future achievement.¹⁵

Initially restricted to participating Institutions, the GRE was made available on a nationwide basis in 1942, and has been in widespread use since that time. Examinations are offered through the National Program for Graduate School Selection at testing centers throughout the United

¹⁴ Graduate Record Examination: A Memorandum . . ., p. 4.

¹⁵ Ibid., p. 1.

States and certain foreign countries four times each year. Candidates register in advance with the Educational Testing Service to take the test at the most convenient center.¹⁶ During the twelve months ending June 30, 1963, score reports were prepared for 681 different colleges and universities which participated in the testing program.¹⁷

The GRE is used widely now at the college senior and graduate school level for determining the fitness of an applicant for advanced study. The test is of knowledge over a broad area and whatever this knowledge carries with it. It purports to be a measurement of what and how much a student actually knows in comparison with students of like experience. When this is known it is easier to make a reliable judgment on the use he makes of what he knows or the qualities he may possess, by using other tests. Personal qualities such as originality, initiative, creative ability, and similar traits cannot be inferred from the results.¹⁸

The first examination is of Aptitude which is a test of academic ability and is divided into verbal ability and quantitative (or mathematical) ability tests. The verbal

¹⁶ Association of American Colleges, p. 34.

¹⁷ Graduate Record Examination: Handbook . . . ,

p. 3.

¹⁸ Buross, 5th, pp. 10, 336.

test consists of verbal reasoning questions (opposites, analogies, and completion), plus paragraph reading comprehension. The quantitative section includes various kinds of quantitative mathematical materials, such as questions on mathematical reasoning, on algebraic problems, and on the interpretation of graphs, diagrams, and descriptive data.

The second examination is of achievement in the areas of social sciences, humanities, and natural science. The student is examined in each area, and scores are given.

In the area of social science the test seeks to appraise the student with regard to such objectives as: understanding of terms and concepts, acquaintance with basic facts and trends; understanding of cause and effect relationships; ability to identify central issues and underlying assumptions; ability to recognize the adequacy of data; ability to draw warranted conclusions; ability to compare and contrast points of view; and the ability to apply appropriate outside information.

The humanities test stresses such abilities as: to interpret verbal and other modes of expression; to recognize formal elements and their relationship; to recognize the function of a work of art; to recognize the nature, use and importance of medium and technique; to recognize organizing principles of art; to recognize characteristics in design and style of a historical period, a particular

movement, or an artist; and to understand the bases on which critical judgments and ethical decisions are made.

The natural science test is intended to sample the student's ability to understand and interpret basic principles and concepts; to interpret common symbols and terms; to interpret data and judge its reliability; to evaluate ways of verifying a hypothesis; to detect assumptions implicit in conclusions, and to explain a phenomenon in terms of qualitative and quantitative principles.

The GRE tests are all reported in a system of scaled scores based on a raw score mean of five hundred and a standard deviation of one hundred. This scaled score system based on the Aptitude Test scores of 2,095 seniors from sixteen major fields tested in 1952 at eleven colleges. The value five hundred represents the average score for this normative group. The data are reported for men and women separately as well as for the total group.¹⁹

There are two reasons for using such a scaled score system. First, the scaled score system provides comparability from one form of the test to another. The second reason is for normative purposes. The setting of the scale values depends on the performance of the group of students being examined. To the extent that the scores of such a

¹⁹Graduate Record Examination: Handbook . . ., p. 5.

group are pertinent and applicable to the uses to which the test is put in other schools -- to that extent the normative scale is meaningful.²⁰

Probably the most meaningful interpretation of scores gained by an individual on any of the tests in the GRE program is in terms of the rank of the individual relative to the group of individuals in other colleges who have taken the same test. The norm tables published by the Education Testing Service make it possible to compare an individual score with the scores of a large number of students from a fairly representative group of institutions in the normative group. On the other hand, a particular institution should find it quite valuable to prepare local norms in order to evaluate the student seeking admission to the school.

While the normative system for the tests was based on 2,095 seniors at eleven colleges, the norms for the Aptitude and Area Tests were based on 3,035 seniors at twenty-one colleges who took the various tests.²⁶

The Education Testing Service says that, "Despite the wide geographical representation of students and colleges in the reference groups for the Graduate Record

²⁰ Graduate Record Examination: Handbook . . ., p. 5.

²¹ Graduate Record Examination: A Memorandum . . .,
p. 5.

Examinations, these are not regarded as 'national norms'.²² The normative reference group is well established, however, and provides a norm whereby individuals may be assessed against a representative group by which local norms may be developed.

The GRE is possibly the best examination of its kind, although only a few reports of research are found in the journals or in the Measurements Yearbook. The reliability of each part of the Aptitude Test is reported as .92, which is adequate for the two parts of the test to be used separately. The relationship between the Aptitude Tests²³ and the Area Tests range from .61 to .72, suggesting that aptitude plays a large part in determining test performance and should show a high relationship to grade point averages. The standard error of measurement on the five tests are from .30 to .40 and the reliability coefficient is from .84 to .90.

Use of the GRE is limited to the testing of knowledge, and of whatever such knowledge carries with it.²⁴ It should be used only as a supplement to other admissions

p. 5. ²²Graduate Record Examination: A Memorandum

²³Buros, 5th, p. 336.

p. 5. ²⁴Graduate Record Examination: A Memorandum

devices.

Test scores alone, especially on a single testing, should not be final in making important decisions. They have value as essential contributory evidence. Students with only average scores in the subject matter may possess other qualities that enable them to succeed--qualities that some high-scoring individuals lack.²⁵

The essential contribution of the GRE has been well summarized by Baker as follows:

Its value lies in the fact that whatever it measures, it then relates the results of such measurement on a national basis. The student who takes it subjects himself to a rank ordering, on that particular day, with all others irrespective of institution or geography, in the matter of his verbal and elementary mathematical skills. It is not the best test that could be designed, but it is probably the best we can afford in terms of time and effort.²⁶

F. The Statistical Methodology

Because of the comparatively large number of cases examined and the separate studies that were to be made, it was decided to make the computations by the use of a data processing machine. The study included separate groups that ranged from six to two hundred and twenty-one subjects, and sought to measure the relationship of each variable to as many as eighty others, a fact which made it impossible to make the calculations manually. Several problems were to require as many as 6,561 separate correlations. Most

²⁵Graduate Record Examination: A Memorandum . . .,
p. 5. ²⁶Sisson, p. 220.

of the calculations were by standard mathematical formulae that are normally used in statistical procedures, such as the measures of variability. The Standard Deviation was calculated by the formula:²⁷

$$SD = \sqrt{\frac{\sum x^2}{N} - M^2}$$

X is the deviation from the mean

N is the number of persons in the group

\sum is the sum

M is the mean

One of the problems posed in the comprehensive design was to measure the degree of interrelationship between the variables that were studied. In this case the total population was being studied, and in every instance all subjects were tested by all testing instruments so that the scores obtained should be valid data that could be used in calculating the relationship of the various variables. Each attribute or variable was measured by the scale that has been commonly adapted to the measuring instrument. In order to deal with numerous ungrouped data from original measurements, the Pearson Product-Moment formula was applied:²⁸

²⁷Guilford, Fundamental Statistics . . ., p. 91.

²⁸Ibid., p. 140.

THE PEARSON PRODUCT-MOMENT FORMULA

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}}$$

X is the original scores of first variable or attribute

Y is the original scores of the second variable or attribute

r_{xy} is the correlation between X and Y, referred to as the product-moment correlation coefficient

N is the number of cases

$\sum XY$ is the product of X and Y scores for each individual, summed over all individuals

$\sum X$ is the sum of X scores over all individuals

$\sum Y$ is the sum of Y scores over all individuals

$\sum X^2$ is the sum of X scores squared over all individuals

$\sum Y^2$ is the sum of Y scores squared over all individuals

This product-moment correlation coefficient is a number indicating the degree of linear relationship between two variables. If this were represented graphically on a scatter diagram, the scores of one variable would be shown in relation to the scores of another variable. If all scores of both variables were on a straight line from the lower left to the upper right corner, the relationship would be perfect and the r would be 1.00. For all lesser

degrees of relationship, it will be a decimal number less than 1.00. A negative correlation would indicate that low scores in one variable tend to go with high scores of the other variable and the degree is shown by a number from +1.00 to -1.00. From these coefficient numbers some inferences may be made to describe the group of persons who have been measured by certain tests. The levels of significance would depend on the value of r and the degree of freedom in each measurement as indicated in standard statistical tables.

The interpretation of the size of r depends very much on what is done with it or the reasons for computing it. Taking correlations at large, the correlation can be described roughly as follows for various r 's:

Less than	.20	-- slight; negligible relationship
.20	.40	-- low correlation; definite, but small relationship
.40	.70	-- moderate correlation; substantial relationship
.70	.90	-- high correlation; marked relationship
.90	1.00	-- very high correlation; dependable relationship

In the comparison of two groups it is sometimes desirable to know the differences between these groups. In the use of objective tests each measurement of a group makes it necessary to test the variability of each measurement. The first step is to measure the standard error of the mean, then the standard error of the difference between

the means of groups, and finally the true difference of means.

The standard error of the mean refers to the normal errors expected in the measurement of the population mean. The standard error of the mean is symbolized σ_m . The formula for the σ_m is:

$$\sigma_m = \frac{\sigma}{\sqrt{N - 1}}$$

σ = SD of the sample

N = number of subjects in sample²⁹

The next step is to calculate the standard error that is inherent in the measurement of the difference between various group means. This statistic is called the standard error of a difference. The formula is:³⁰

$$\sigma_{\text{diff}} = \sqrt{\sigma_{m_1}^2 + \sigma_{m_2}^2}$$

σ_{m_1} = the standard error of the mean of one of the groups

σ_{m_2} = the standard error of the mean of the other group

In calculating the true difference of means it is necessary to divide the difference between the means by the standard error of difference. This is called the t-ratio, and is derived by the formula:³¹

²⁹Underwood, p. 111. ³⁰Ibid., p. 125. ³¹Ibid., p.127.

$$t = \frac{M_1 - M_2}{\sigma \text{ diff.}}$$

M_1 = mean of first sample

M_2 = mean of second sample

$\sigma \text{ diff}$ = standard error of difference

CHAPTER IV

SURVEY OF RELATED STUDIES

A. The Ministry and Psychological Literature

Probably the first book, in a long line of treatises, on the abilities of the minister was published by Charles Bridges in 1829.-- The book was, The Christian Ministry: with an Inquiry into the causes of its inefficiency. Dittes¹ describes it as a long book interspersed with pious and moral exhortations and analyses that would sound familiar to psychoanalytically and sociologically tuned ears. Much of the literature on the ministry since that time has been about the ministry and the minister without providing specific materials for dealing with "inefficiencies." Actual progress in research on clergymen has been only since World War II. The slowness in making psychological inquiries into the ministry has not been because such measures are a recent development. The application of psychological methods in the study of the ministry has been concurrent with developments in other special vocational fields, and the volume of scientific literature that applies to the ministry is

¹Dittes, pp. 140-165.

comparable to the amount of studies that pertain to other vocations.

B. Background Literature in Psychology

It is difficult to write about important psychological literature without including many books that have contributed to the growth of psychological theories and methods. Even when making a nomothetic study of seminary students the theory of human personality is a part of the problem and the adequacy of the theory must be judged along with the empirical data. Writings by many scientists such as Allport, May, and Maslow maintain a perspective that is important to this dissertation, but their books will not be reviewed as a study related to the field. Many other books are closely related to the areas of personality, vocational interests, aptitude, and academic achievement. These books will be mentioned in connection with studies of these subjects in chapters of this dissertation. A complete bibliography of research with the MMPI, GZTS, SVIB, and Gre are given with the description of these tests in the Psychological Yearbook² and need not be repeated here. The literature that is reviewed here will be limited to nomothetic studies of students in seminaries by the use of the MMPI, GZTS, SVIB, or GRE, and other partial studies of seminary students

²Buros, 5th, pp. 10, 336.

with these same instruments.

C. Normative Studies of Seminarians

No normative studies of seminary students in other seminaries have been completed, however, some studies are in progress and some general norms are being used to assess candidates for the ministry. Vayhinger and Wise³ are in the midst of a long range study at Garrett Theological Seminary of students who graduated between 1950 and 1960. The study proposes to validate the MMPI and the Ohio Psychological Test. The students who graduated between 1950 and 1960 will be tested with other instruments and observed in their parish work in order to assess the relationship of certain personality characteristics observed in seminary performance to later parish experience. The objective of the research project is to find clues for the selection of students for the ministry and discover the relation of the academic abilities and training to the personality needs of the student and the requirements of the seminary.

The United Presbyterian Church, through its Board of Christian Education, under the direction of Clifford Davis⁴ has conducted a denomination-wide testing program for a longer period than any other church. The study renders a valuable service to local churches in recruiting the

³Vayhinger.

⁴Davis.

student for the ministry and to the seminaries who counsel them and guide their education. The students take the MMPI test with fifteen auxillary scales and the Strong test, prior to entering the seminary or at the time of entrance. These tests are scored and the norms are supplied to the seminaries with norms of various church populations for the purpose of counseling and interpretation. This service provides information to the seminary on a wider scale and guarantees professional psychological information that might not be available in many seminaries. None of the seminaries have developed norms that apply to the total seminary group.

The United Lutheran Church is the second denomination that is seeking to utilize tests in guiding candidates for the ministry. The Board of Education, under the direction of J. Victor Benson,⁵ tries to secure the testing of each student who aspires to the ministry, while he is still in college. If a student has not been tested while in college, the Lutheran seminaries administer the MMPI, Miller Analogies Test, and the Strong test. The tests are scored and profiled by the Board of Education, and the profiles are returned to the school where they are used for purposes of general interpretation and counseling.

⁵Benson, Committee for Research . . .

Additional research is projected by the Lutheran Board to validate additional MMPI scales and their ability to discriminate between four groups of 550 tested ministers: (1) fifty outstanding ministers, (2) fifty "weak" ministers, (3) fifty "drop-outs for psychological reasons", and (4) four hundred residual cases.

Other projects are proposed, such as longitudinal studies of testing and guidance in synods, and of success in the ministry. All of these projects are in process and are examples of ways that tests may be utilized. Norms for the MMPI based upon a stratified sample of two hundred students selected randomly from a universe of two thousand are available for comparison with other groups of seminarians.

D. Studies of Personality Patterns of Students in Seminaries

In 1947 Johnson⁶ used the MMPI, SVIB and Bernreuter Personality Inventory with seventy students in a midwestern Lutheran Seminary. The profiles of seminary students were compared to similar data with heterogeneous groups, including speech defectives, unmarried mothers, college students, salesladies, optical workers, clerical workers, women teachers, and soldiers. The MMPI scores indicated a personality pattern peculiar to seminary students. The scores on the

⁶ Johnson.

MMPI were consistently higher than those of other occupational and professional groups. The SVIB indicated that seminary students have high scores on the social interests. All the findings among the SCST seminary students are the normal results that would be expected from these tests in any situation, but it is important that seminaries encourage these studies.

In a study of the relationship between personality characteristics of seminarians and the problems encountered in the ministry, J. C. Whitcomb⁷ used the GZTS in the study of one hundred and eight seminarians and sixty-five five-year graduates. While his objective was to study personal data, personal problems and the personality traits that were related to them, it may be noted that the seminarians were significantly above the norms on the Guilford-Zimmerman test for restraint, ascendancy, sociability, emotional stability, objectivity, friendliness, thoughtfulness and personal relations. The only difference which was significant between seminarians and five-year graduates on this test was on the thoughtfulness factor--a factor which suggests that personality characteristics of ministers as measured by the Guilford-Zimmerman test, change very little in the field. This would indicate that this test is a valuable one to be included in the battery used in the testing of

⁷ Whitcomb.

seminarians.

Other research studies of various problems, such as comparison of students from the conservative and the liberal positions of religious belief, and vocational satisfaction in the ministry. These studies have not used the long form of the MMPI, GZTS, or SVIB, or they have developed tests that are adapted to their problems.

Bier⁸ made an extensive study of Catholic seminarians by using the MMPI. His purpose was to learn, in some detail, something about the psychological factors which make for adjustment in the priesthood. He sought to find the extent to which general findings and general norms would have to be modified when applied to special groups, such as the minister.

Bier compared four groups composed of 171 seminary students, 55 law students, 208 medical students, 121 dental students, and 369 college students. He took care that his control groups were like his clergy sample in being male, Catholic, unmarried, near the same age, and with three groups of post-college professional education. On many scales of the MMPI, all students scored higher than the standard norms, and the post-college professional students scored higher than the college students. The differences between the seminary students and other professional

⁸ Bier.

students would be illuminative of the characteristics of clergymen, but Bier does not interpret these differences. The seminary and law students were most alike and had significantly higher scores on the Hs, D, and Hy scales than the medical and dental groups. It might also appear that the seminary and law students share a greater sensitivity and solicitous concern for the tribulations of life, along with a gentler response to these tribulations as represented by high Mf scores. Since the dental students had the lowest scores on all of these scales, we may infer that they are the least gentle and solicitous.

If the two groups, the seminary and law students, are compared, it may be noted that the seminary students are higher on the Mf, Pt, and Sc scale, but are much lower on the Ma scale. This would indicate that law students respond to problems with greater activism than the seminarians.

Bier deals with factors that produce a vocational decision to become a priest, and also distinguish him among other professional students. He assumes that effective functioning as an individual is an extension of norms that are general for all persons, but he proposes to eliminate factors in the test that tend to elevate scales of priests because of certain inhibiting qualities. His study is very informative about Catholics, since it was carefully controlled to groups of Catholics. This limits generalization of

his findings to other populations, but the research is so well designed that similar studies could be made with more heterogeneous groups.

E. Studies of Seminary Students as Potential Ministers

Ashbrook⁹ made an empirical investigation of seminary resources in evaluating potential ministers. He used two groups of students at Colgate Rochester Divinity School. The test battery used at the time of admission included: MMPI, GRE, Miller Analogies Test, and Cooperative English test. The criterion variables included: ranking as to potentially scholarly pastors by faculty, peers, and self; grade-point averages; and field work ratings. Group A was evaluated after completion of two years of residence and continuation in the program. Group B was evaluated after completion of one and a half years of residence and continuation in the program. The N was 28 and 30 respectively.

Highly significant correlations were found between faculty and peer ranks and grade-point averages. Tests scores showed no relation in Group A to criterion variables and strong relation in Group B. The presence of personality variables, as reflected in the MMPI and intercorrelation discrepancies among criterion variables, appeared to affect prediction based on multiple regression equations.

⁹ Ashbrook.

Very high self ranking tended to be negatively related to performance and potential. Age showed little, but slightly negative, relation with criterion variables.

Spiers¹⁰ has undertaken a study of the predictive validity of scores obtained in the test battery administered to theological students at Christian Theological Seminary, in 1960-61. This is the subject of a doctoral dissertation to be completed in 1964. The seminary uses the Guilford-Zimmerman Temperament Survey, California Test of Mental Maturity, Kuder Preference Record, and the Theological School Inventory. His research proposal is to investigate the correlations between the tested personality variables and four criteria measures of ministerial effectiveness. Ministerial effectiveness is defined to mean "potential ministerial effectiveness" as judged by (1) academic success in two semesters of seminary work, (2) faculty ratings of potential ministerial effectiveness, (3) peer group ratings of potential ministerial effectiveness, and (4) a type of on-the-job rating made by raters of student's work in a student church assignment. This should be a good step in the direction of assessing ultimate ministerial effectiveness as it may be observed at a later time in the parish work. It will also provide the norms of the battery of tests used by the seminary and enhance the value of the

¹⁰Spiers.

tests for continued and effective use of the tests in the seminary.

F. Other Studies in Seminaries

There are many excellent studies in seminaries that suggest the possibilities of research when testing norms are established in a seminary. Some of the studies that are conducted in other seminaries are interesting because they are concerned with the general problems of this dissertation, but are not directly related to the study because they do not use the same psychological measures. The studies mentioned in this chapter are the most directly related to the study of the seminarian as a candidate for the ministry and his potentiality in the ministry.

CHAPTER V

THE POPULATION TO BE STUDIED

A. The Problem of Homogeneity

In order to eliminate sampling error, it was decided to study the entire population of students, and to make special studies of selected groups, such as married, single, drop-out, and failure students.

The problem of homogeneity of the population was considered, but when one seminary is compared with another, or the norms of a seminary are established, it is necessary to recognize and accept considerable heterogeneity as a normal and fairly constant part of all seminary situations. Controls might be imposed to reduce the measurements to homogeneous segments of the population, but this reduces the possibility of generalizing to other populations. Within the scope of the geographical area and the religious strata from which a seminary draws its population, each seminary has a heterogeneity that characterizes it. To compare the character of two seminaries is to describe their heterogeneity. To set up the norms of a seminary is to afford a means of comparing one student with every other student in that seminary. This is one of the primary objects of this

study.

In spite of the heterogeneity that exists, the homogeneous character needs to be emphasized. Some factors have a degree of constancy, such as education (all subjects will be college graduates and meet certain requirements that are common in all accredited seminaries), sex (males will be studied separately from females), vocation (all will be registered in an accredited professional school), previous degrees (all will be graduates of accredited colleges; students from foreign, non-English language schools will be eliminated); degree goals (most students are candidates for the Th. M. degree (195). The M.R.E. students (6) are oriented in the total program for ministers; denomination (there are no significant ecological or denominational differences); the students are Protestant, and the "school is interdenominational in relationship and ecumenical in spirit. Its closest ties are with the Methodists, the Disciples of Christ, and the United Church of Christ.")¹ and marital status (most students are married, but differences between married and single students will be studied).

2. The Total Population

The total population of the seminary between 1957 and 1963 is 265 male and female students. All records of

¹ Southern California School of Theology, p. 20.

students who were admitted and who attended as much as two semesters were examined and the information from their records are included in the data upon which this study is based. It was necessary to eliminate the records of ten students who had attended colleges in foreign countries. It was evident that their background could not be equated with that of other students, although they deserved the opportunity to be enrolled as students. It was also necessary to discard twenty-one records (nineteen male and two female) because the students had not taken one or more tests that were required of students for admission. There were 234 students (221 male and 13 female) who had completed all of the tests that were required at the time of their admission to the seminary. This is the population with adequate records for statistical study that is represented in this dissertation. The number and percentage of the population by sexes is shown in Table I, page 61.

TABLE I
NUMBER AND PERCENTAGES OF SCST
POPULATION BY SEXES
(N-250) (N-15)

Population	<u>Male</u>		<u>Female</u>	
	Number	Percentage	Number	Percentage
Enrolled students with complete files	221	86.90	13	86.67
Foreign students, files eliminated	10	2.50	0	0.00
Students with incomplete files	19	11.60	2	13.33
Totals	250	100.00	15	100.00

C. The Tests Taken by Southern California School of Theology Students

Not all students in this population were examined by the same tests, since the MMPI and the SVIB were introduced after the school was established. Many of the earlier students were admitted on the basis of other requirements. The number of students taking the tests upon which the measures of central tendency, variability, and relationship were based are shown in Table II, page 63.

TABLE II
NUMBER OF SCST STUDENTS TAKING VARIOUS
TESTS

Tests	Number of Males	Number of Females
MMPI	179	13
GZTS	221	13
SVIB	116	13
GRE	221	13

D. The Variables

There are eighty-one variables that are important in the study of these seminarians. Two of these variables may be called the dependent variables or the criteria of success for the student. These are the grade point averages at the end of the junior year and at the time of graduation. The independent variables, or the variables from which predictions may be made, are the college grade point average and the score values assigned to each of the test scales in the battery of tests used in evaluating the students admitted as seminarians. The tests and measurements and the number of variables for men and women in each are shown in Table III, page 65.

There are fewer variables in the tests for women than for men. Different score values are assigned to the scales, and there is a different population background for women, so men and women will be considered separately hereafter.

TABLE III
 TESTS AND MEASUREMENTS FOR SCST
 MEN AND WOMEN
 (V-81) (V-56)

Tests and Measurements	Variable	
	Men	Women
College Grade Point Average	1	1
Junior Grade Point Average (end first yr.)	1	1
Seminary Grade Point Average (graduation)	1	0*
MMPI	13	13
GZTS	10	10
SVIB	50	26
GRE	5	5
Total	81	56

*Inadequate for computation

E. Marital Status of Male Southern California School of
Theology Students

The number of married male students in graduate education has increased in recent years. Marriage generally occurs with most people at about the age when those entering the professions would be in the process of graduate education; so, in spite of the privations of student life, it is to be expected that many students would be married. The trend toward a lower age of marriage among all American youth is also a factor that may be a part of the fact that the percentage of married students enrolled in any typical seminary rose from 15 per cent in 1934-35 to 36 per cent in 1954-55. While the mid-range of married students in seminaries is from 30 to 60 per cent, some seminaries drop as low as 18 per cent and others rise as high as 80 per cent.² The marital status of the male population considered in this study is shown in Table IV, page 67. It is apparent that the seminary is not a monastic institution. Whether there is any significant difference in the married and single male students will be considered in the course of this study.

²Niebuhr, The Advancement of Theological . . ., p. 13.

TABLE IV
MARITAL STATUS OF MALE SCST POPULATION

Marital Status	Number	Percentage
Married	138	62.61
Single	82	36.94
Divorced	1	.45
Total	221	100.00

F. The Age of Male Students in Southern California
School of Theology

The age of students does not become a factor in this study, but homogeneity of the population may be indicated in the distribution of ages as shown in Table V, page 69. The mode of the group is twenty-two years and the range is from twenty to forty-nine years. The average age at the time of admission is 26.04 years for the male student.

TABLE V
AGE OF SCST MALE STUDENTS AT TIME
OF ADMISSION
(N=221)

Range of Ages	Number	Percentages
45 - 50	2	0.92
40 - 44	5	2.26
35 - 39	9	4.05
30 - 34	34	15.40
25 - 29	50	22.62
20 - 24	121	54.75
Total	221	100.00

G. Time Enrolled to Complete Course of Study

Another factor that is probably important in theological education is the number of semesters required to complete the required work. Many students are employed by churches in positions as assistants to the pastor during the time they are enrolled as students. In most cases it is difficult for the student to carry the load of work that would permit him to be graduated in the normal period of six semesters. Other students find it necessary to be employed at more gainful occupations to support a family while in school, and, in some instances, to prolong their seminary education by taking only two or three courses each semester over a period of several years. The 126 graduates receiving the Master of Theology degree in this study required an average of 7.14 semesters to complete their work. One student completed his work for a degree in five semesters, but the range of time required was from five to fifteen semesters. Only fifty-eight (46%) of the 126 graduates finished their work in the normal period of six semesters.

H. The Colleges Represented in Southern California School of Theology Among Male Students

The best example of heterogeneity in a seminary population is the variety of colleges represented in its

student body. The broad diversity of traits, interests, and aptitudes that characterizes the individual seminary student is matched only by the diversity of educational emphasis, ideology, and culture that marks the colleges from which they come. Certain standards of academic procedure, educational goals, and practical output are implied by the membership of a college or university in an accrediting agency representing American colleges, but it is undeniable that there are differences in the products that emerge from the various colleges. The distinction of a college depends less on what it does to students than on the students to whom it does it.³ This does not relieve the college of some responsibility. The real efficacy of a college is the product of the fortunate conjunction of student characteristics and expectations, and the demands, sanctions, and opportunities of the college and its sub-cultures. These same measurements apply to higher education.

The kind of diversity in a seminary that is derived from the difference in college background of its students is not more important than the other differences that distinguish people as individuals. The students in SCST come from eighty-seven different colleges. The distribution represented in the population and the number and percentages of students from each are shown in Table VI, pages 72-76.

³Darley, "Diversification in . . .," p. 250.

TABLE VI
DISTRIBUTION OF MALE SCST STUDENTS
FROM VARIOUS COLLEGES
(N-221)

Colleges	Number	Percentages
University of Redlands	22	10.00
Chapman College	13	5.85
Whittier College	13	5.85
Los Angeles State College	12	5.40
University of Southern California	12	5.40
University of the Pacific	11	5.00
George Pepperdine College	9	4.00
Long Beach State College	7	3.60
Occidental College	6	2.70
Pasadena College	6	2.70
University of California, Los Angeles	6	2.70
Arizona State College	4	1.80
Baker University	3	1.35
Fresno State College	3	1.35
San Diego State College	3	1.35
Stanford University	3	1.35
University of Arizona	3	1.35
University of Washington	3	1.35
Albion College	2	.90

TABLE VI (continued)

Colleges	Number	Percentages
California State Polytechnic College	2	.90
California Western College	2	.90
College of Puget Sound	2	.90
Hamline College	2	.90
LaVerne College	2	.90
Phillips University	2	.90
Southwestern College	2	.90
San Jose State College	2	.90
Sul Ross State College	2	.90
Syracuse University	2	.90
University of Colorado	2	.90
Vanderbilt University	2	.90
Asbury College	1	.45
Barrington College	1	.45
Baldwin - Wallace College	1	.45
Bradley University	1	.45
California Christian College	1	.45
California State Polytechnic College- San Luis Obispo	1	.45
College of Idaho	1	.45
Cornell College	1	.45

TABLE VI (continued)

Colleges	Number	Percentages
Earlham College	1	.45
Flint College	1	.45
Florida A & M College	1	.45
Florida Southern College	1	.45
Florida State College	1	.45
George Fox College	1	.45
Hastings College	1	.45
Hendrix College	1	.45
Jamestown College	1	.45
Kansas State College	1	.45
Kansas University	1	.45
Lambuth College	1	.45
LaSierra College	1	.45
Lewis and Clark College	1	.45
Marshall College	1	.45
Morningside College	1	.45
Nebraska Wesleyan College	1	.45
Northwest Christian College	1	.45
Northwest Bible College	1	.45
Northwest Nazarene College	1	.45
Ohio Wesleyan College	1	.45

TABLE VI (continued)

Colleges	Number	Percentages
Oklahoma City University	1	.45
Olivet College	1	.45
Oregon State University	1	.45
Pennsylvania State University	1	.45
Pomona College	1	.45
Princeton University	1	.45
Roanoke College	1	.45
Sacramento College	1	.45
Southern Methodist University	1	.45
Taylor University	1	.45
Texas Christian University	1	.45
Texas Wesleyan University	1	.45
Tufts University	1	.45
University of California, Riverside	1	.45
University of Calif., Santa Barbara	1	.45
University of Louisville	1	.45
University of Minnesota	1	.45
University of New Mexico	1	.45
University of Oregon	1	.45
Upland College	1	.45
Washington and Lee University	1	.45

TABLE VI (continued)

Colleges	Number	Percentages
Western Michigan University	1	.45
Wiley College	1	.45
Whitworth College	1	.45
Melbourne College, Australia	1	.45
Total	221	100.00

I. The Denominations Represented in Southern California
School of Theology Among Male Students

The distribution of students from various denominations represented in the seminary during the period covered by this study are shown in Table VII, page 78.

J. The Background of the SCST Female Population

The SCST female population must be considered separately for various reasons. The tests that are used are designed differently for women than for men, and so this necessitates separate treatment of the two populations. There are other differences that justify a complete study of both groups. There is no need to build a case for the similarity of the traits, interests and capacities of men and women when the complexity of society affords both men and women a chance to find fulfillment of their lives in the unique manner in which each one is equipped to express themselves.

The female population of SCST is quite small, and this emphasizes the problem of heterogeneity that must be considered in all statistical studies. It was mentioned previously in this chapter that thirteen women constitute the female population upon which this study is based. These women were tested on the 54 variables of the MMPI, GZTS, SVIB, and GRE. In addition to this the college, and junior grade point averages are considered. To continue

TABLE VII
DISTRIBUTION OF MALE SCST STUDENTS
FROM VARIOUS DENOMINATIONS
(N-221)

Denominations	Number	Percentages
Methodist	156	70.27
Christian Churches (Disciples)	22	9.92
United Church of Christ	17	7.66
Presbyterian	6	2.70
Baptist	3	1.35
Episcopal	3	1.35
Unitarian	3	1.35
Churches of Christ	2	.90
Lutheran	2	.90
Evangelical Reformed	1	.45
African Methodist Episcopal	1	.45
Evangelical United Brethren	1	.45
Christian Missionary Alliance	1	.45
Brethren in Christ	1	.45
Nazarene	1	.45
Seventh Day Adventist	1	.45
Salvation Army	1	.45
Total	221	100.00

with this description of the SCST female population, we find that the average age of women is twenty-five years, the range is 21 to 49 years, and the mode is 21 years. Eleven women are single, and two are married.

The diversity of college background is seen in the number of colleges (nine) from which the women seminarians have graduated. These colleges are:

University of Redlands	4
Whittier College	2
Arizona State University	1
Long Beach State College	1
National College	1
Ohio University	1
Pasadena College	1
San Diego State College	1
University of Hawaii	1

The denominational background is less diverse, but the thirteen female students are from four denominations.

Methodists	9
United Church of Christ	2
Christian (Disciples of Christ)	1
Lutheran	1

CHAPTER VI

THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY AND ITS NORMS

A. The Personality and the Ministry

The personality is a matter of primary concern in the selection and education of ministers. The task of the minister makes its most important demands on the inner personality, rather than on easily measurable external abilities and general attitudes. There are some norms that are general for all persons, but the criteria of mental health has an especial application to the minister, since the effective functioning of the clergyman is assumed to be directly related to his mental health. The practical interest is to "screen out" those whose general level of mental health or style of personality adjustment is such that it might be predictive of gross deviant performance because of emotional and personality disturbance. In many professions some deviations of personality may be tolerated without damage to the individual or his profession, but it is more difficult for religious organizations to absorb and utilize persons who are likely to be disruptive and controversial.

Being a minister and being an effective minister

are not independent criteria, but lie along the same continuum. The effective minister is just a more extreme degree of being a minister, and being a poor minister is a small form of not being a minister at all, such as those who are tied to the profession by external circumstances and unconsciously evade the role they occupy. The point at which this vocational pilgrimage should begin, and where the first evaluations can be made, is at the time when the first ideas and plans about preparation for the ministry are considered, whether it is in high school or college. The underlying personality configuration that is observed at this time and the performance of the prospective minister during the period of his experience as a student may be regarded as a stable and consistent system from which future behavior in specified situations may be inferred.

It is difficult to predict from incomplete knowledge of a minister at one point of time in his life how he will act in a different situation at a future time when he is subjected to an unpredictable situation, but it is important to make objective observations and tests of prospective ministers at the earliest possible point in their career. This is essential for any research, but the data that are accumulated must be related to criteria that are significant in his growth as a minister. The criterion of success in the seminary that is merely expressed in grade point averages and by the presentation of a diploma is only

an arbitrary measure that is adopted because we lack criteria of what is expected by the church in the parish ministry. The measurement of any criterion that is eventually set up will be limited to the adequacy of the data that are gathered in the original set of predictors, so the norms that are derived at this point become a body of data that is essential to the present evaluation of the prospective minister and to future research.

B. The Minnesota Multitphasic Personality Inventory and Its Use

The MMPI is an important part of the battery of tests used at SCST. It has had an immediate value in providing a psychological evaluation of the individual student for the admissions committee and the student's faculty advisor. The purpose of this chapter will be to study the measures of central tendency, variability, and the relationship of the test to other tests as it has been used in this seminary, and to make some comparison of these norms with other seminarians. It is hoped that these findings will increase the value of the instrument in its present use, and furnish some information as to any value it may have as a predictor of other significant factors in the growth of an effective minister. A brief description of MMPI scales is included as Appendix B for use in interpreting references to these scales.

C. The Minnesota Multiphasic Personality Inventory, and
Its Norms in Southern California of Theology

The MMPI was adopted as a part of the battery of tests by SCST in 1956. In the time from 1956 to 1963, test profiles have been made on 179 male students and 13 female students. This is the total group who have been admitted as students during that period. The population of this group is shown in Table VIII, page 84.

The drop-outs are students who have been registered and are known to have dropped out of school and to have changed vocations. The failures are students who have become ineligible for enrollment because of inadequate grades. The present students are those who are enrolled at the present time or whose records are in the files and are eligible for continued enrollment. All tests were taken at the time, or prior to the time, that the subjects were admitted as students to SCST.

Measures of central tendency and variability on the MMPI for both male and female students in SCST and the general population normative group (as given by Hathaway and Briggs)¹ are shown in Table IX, pages 85 and 86.

¹Hathaway, "Some Normative Data . . .," pp. 364-68.

TABLE VIII
THE MALE AND FEMALE MMPI POPULATION OF SCST
(N-179) (N-13)

Population	Male	Female
Graduates, Th. M. degree	92	0
Graduates, M. R. E. degree	4	6
Dropouts	9	0
Failures	6	0
Present Students	68	7
Total	179	13

TABLE IX
 MEAN SCORES AND STANDARD DEVIATIONS ON MMPI*
 SCALES FOR MALES AND FEMALES FOR THE GEN-
 ERAL POPULATION AND SCST STUDENTS
 (N-179)

MMPI Scales	General Population**		<u>MALE</u>	
		Standard Deviation	SCST Population	Standard Deviation
L	50.15	9.61	51.74	8.27
F	52.64	9.60	48.96	4.50
K	51.90	10.32	64.88	7.21
Hs	50.02	9.70	52.84	5.57
D	49.86	9.76	50.06	6.99
Hy	49.98	10.02	60.83	5.56
Pd	50.90	9.92	58.90	7.03
Mf	49.88	10.16	65.22	8.64
Pa	50.18	10.68	55.40	6.64
Pt	49.90	9.76	56.44	6.53
Sc	50.26	9.68	56.46	6.33
Ma	50.00	9.74	56.56	9.21
Si	50.00	11.58	43.68	6.08
Number			179	

*All scales K-corrected

**Raw scores converted to T-scores

TABLE IX (continued)

MMPI Scales	General Population**		<u>FEMALE</u>	
	Mean	Standard Deviation	SCST Population Mean	Standard Deviation
L	50.81	8.79	47.77	6.88
F	51.47	8.77	47.15	2.70
K	49.16	10.14	58.77	8.28
Hs	50.28	9.76	47.46	5.58
D	49.52	12.36	46.77	7.56
Hy	49.80	10.12	57.15	5.37
Pd	48.82	10.61	54.08	10.67
Mf	49.98	9.66	41.46	8.78
Pa	49.94	9.96	51.31	9.99
Pt	50.21	10.06	51.38	8.12
Sc	50.30	9.85	53.08	7.88
Ma	48.24	10.22	57.15	11.95
Si	50.00	11.58	45.15	6.45
Number	13			

* All Scales K-corrected

** Raw scores converted to T-scores

The MMPI scores on the male and female population of SCST indicate that the mean T-scores for seminary males are considerably above the standard norm of fifty for the general population on all clinical scales, and below fifty only on the Si scale. Although these differences from the mean of fifty may not all be statistically significant, the Hy and Mf scores are more than a standard deviation above the mean of fifty. The mean T-score for seminary women is below fifty on the Hs, D, Mf, and Si scales. Their highest scores are on the Hy and Ma scales, and the only score higher than the male profile is on the Si scale. The Mf score of men is fifteen points higher, and the score for females is five more points lower than the norms of the general population. The K-score on the validity scale for men shows a greater defensiveness against psychological weakness than is shown by women. This fact would seem to indicate that male seminary students are more maladjusted than the "average" person upon whom the MMPI norms were established, and more maladjusted than the female students in the same seminary. However, since seminary students range from average to superior intelligence as a requirement for admission, and intelligence and "good" adjustment are regarded as positively correlated, it should not be concluded that seminary students are necessarily more maladjusted. It is also possible to interpret the scores to mean that seminary students answer questions differently to a degree

that would make it necessary to establish separate norms for them, especially when comparisons are to be made with groups of diagnosed abnormals or even with groups of students entering other higher professions.

D. The Southern California School of Theology Seminary
Student in Relation to His Own Group

The mean scores presented in Table IX, pages 85 and 86, particularly on some scales, make it necessary to take such data into account in interpreting profiles of seminary students, when comparing these profiles with normals, or when comparing the profile of one seminary student with another. For the purpose of interpreting the profile of a seminary student in relation to his own group, it may be enlightening to note the scores computed from the data in Table IX, pages 85 and 86, which would place a student one and two standard deviations above the mean in his own population. Rounded off to the nearest integer, these scores for male and female seminary students would be as indicated as in Table X, page 89.

For interpretative purposes, the "critical score" level of seventy, at which there is an increased degree of similarity to clinical groups, must be adjusted to these extra-normal distributions, especially for male seminary student profiles. As an example in the frequency distribution of Mf scores for men under the normal curve, 73 per

TABLE X
 SCORES ON MMPI SCALES FOR MALE AND FEMALE SCST
 STUDENTS ONE AND TWO STANDARD DEVIATIONS
 ABOVE THE MEAN OF THEIR
 OWN POPULATION
 (N-179) (N-13)

Deviations	MMPI Scales												
	<u>L</u>	<u>F</u>	<u>K</u>	<u>Hs</u>	<u>D</u>	<u>Hy</u>	<u>Pd</u>	<u>Mf</u>	<u>Pa</u>	<u>Pt</u>	<u>Sc</u>	<u>Ma</u>	<u>Si</u>
	<u>Male (N-179)</u>												
One standard deviation above mean	60	53	72	58	57	66	66	74	62	63	63	66	50
Two standard deviations above mean	68	58	79	64	64	72	73	82	69	69	69	75	56
	<u>Female (-13)</u>												
One standard deviation above mean	55	47	67	53	54	63	65	60	61	60	61	69	52
Two standard deviations above mean	62	50	75	59	62	68	75	69	71	69	69	80	58

cent of the SCST men score sixty or higher, 29 per cent score seventy or higher, and one per cent score over eighty. The Hy mean score of SCST men is over sixty, but only five per cent of the students have scores over seventy at two standard deviations above the mean. The Ma mean score is within the normal range at 56.56, but at two standard deviations above the mean, 7.35 per cent of the students have scores over seventy. On the other hand, the mean scores of female students are within the normal range, but 6.81 per cent of the Pd distribution and 14.23 per cent of the Ma distribution is over seventy at two standard deviations above the mean. These are only examples of the viewpoint that must be assumed in interpreting the MMPI profile in a population of seminary students where the profile varies significantly from the MMPI normative group. The profile in Figure 1, page 91, shows the normative male population of SCST (N-179), at the mean level and at one and two standard deviations above the mean. The profile in Figure 2, page 92, shows the same information for the female population (N-13).

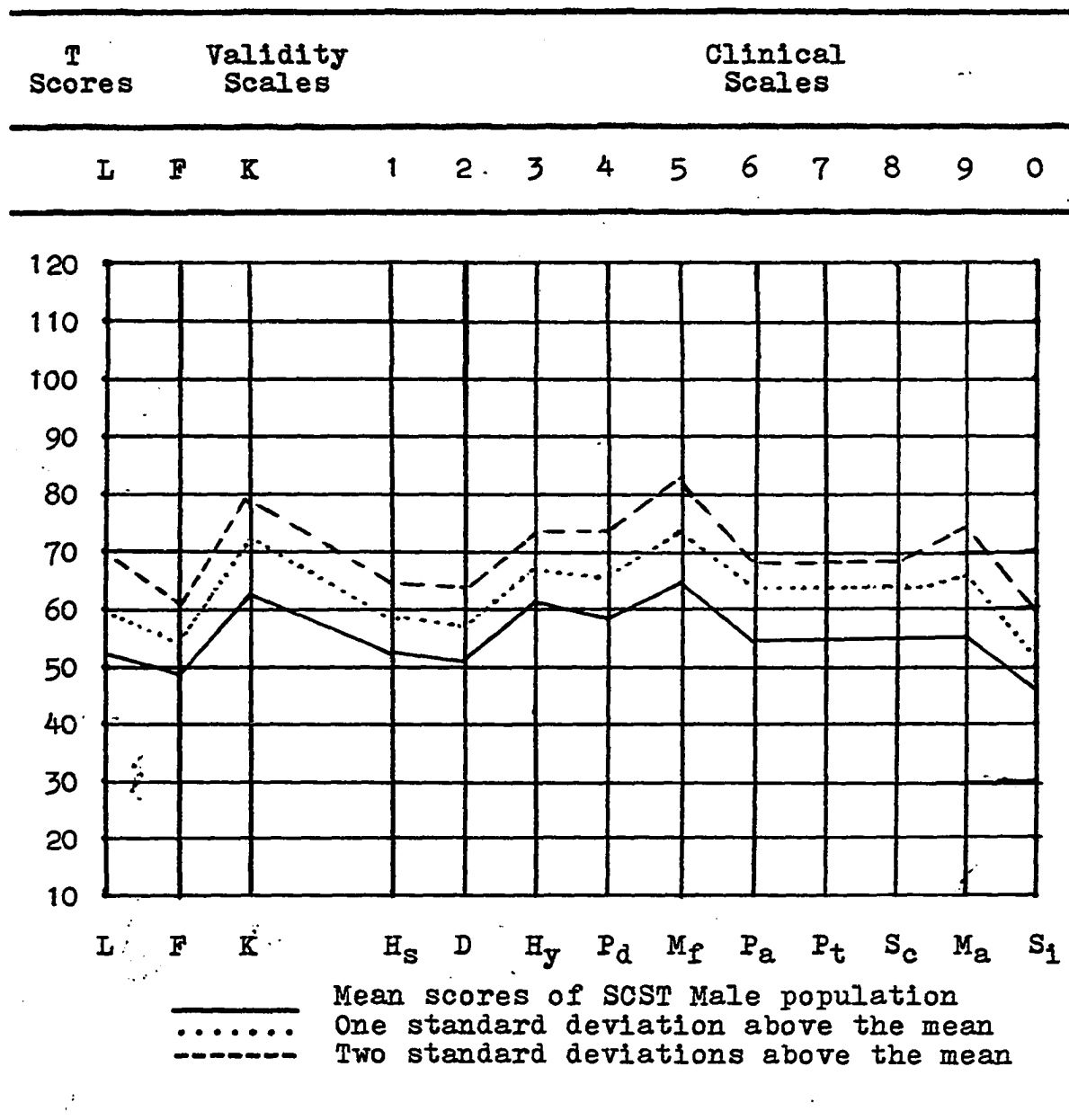


FIGURE 1

MEAN SCORES ON MMPI SCALES FOR SCST MALE STUDENTS
 AND AT ONE AND TWO STANDARD DEVIATIONS
 ABOVE THE MEAN
 (N-179)

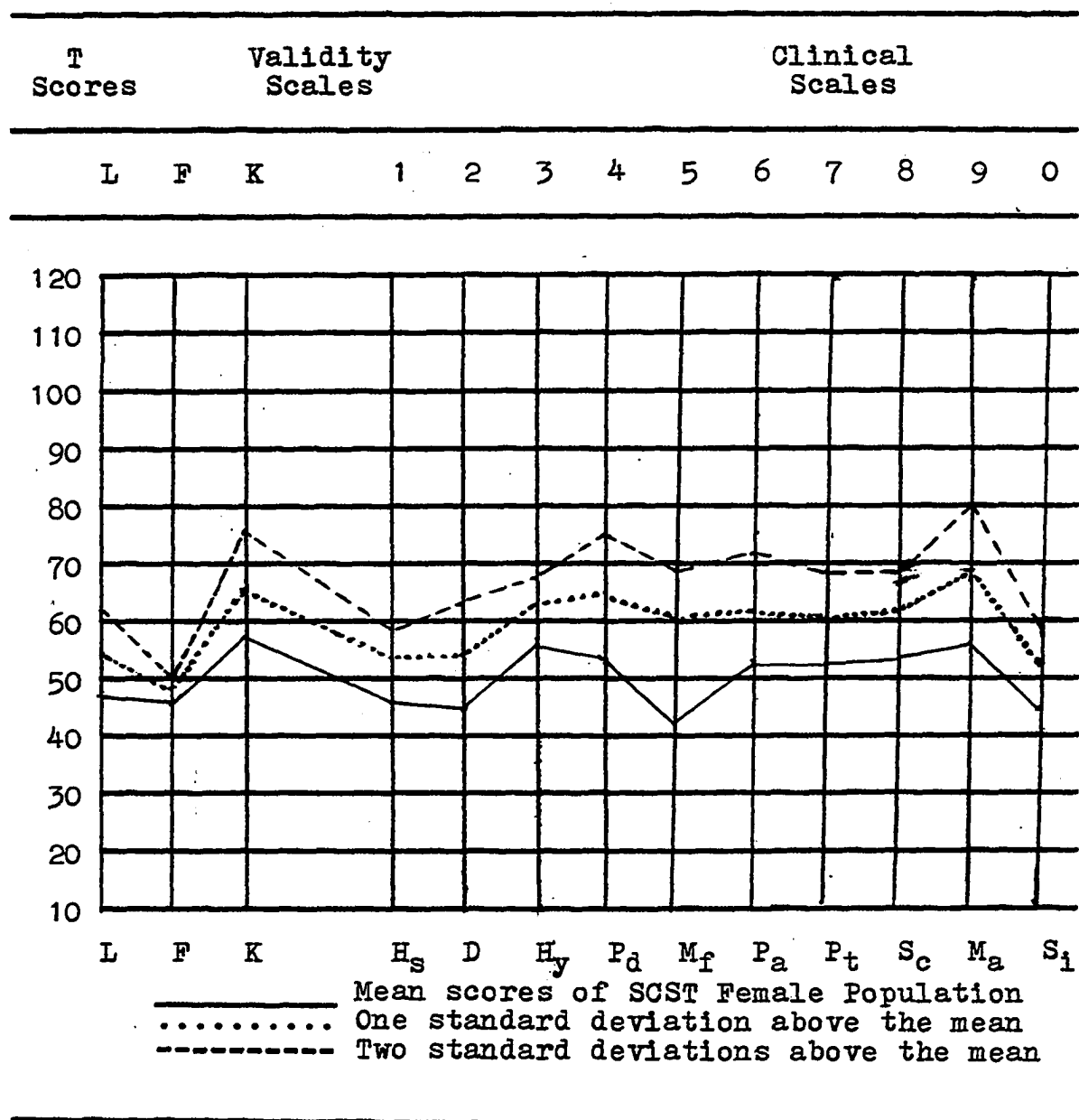


FIGURE 2

MEAN SCORES ON MMPI SCALES FOR SCST FEMALE STUDENTS
 AND AT ONE AND TWO STANDARD DEVIATIONS
 ABOVE THE MEAN
 (N-13)

E. The Male Southern California School of Theology
Seminary Student and the General Population

The profile of seminary males is considerably above the median T-score of fifty, by which the general population is evaluated. This might indicate that ministers are a deviant and sick group of people in the midst of a normal and healthy general population, according to these norms, so it is important to know the meaning and causes of these variances. The minister must continue to live in the world and to be judged by the standards that apply to the general population. A comparison of the means, the differences, and the critical scores indicated at two standard deviations above the means between seminary students and males in the general population should help discover what areas of personality or mental health might distinguish or uniquely specify the seminarian. To do this, the k-corrected scores of the Minnesota male normals,² which are referred to as the General Population norms, will be compared with the norms of the SCST population by showing the mean, the difference from the mean, and also the differences at two standard deviations above the mean in Table XI, page 94. The profiles based on these data are shown in Figure 3, page 95.

²Hathaway, "Some Normative Data. . .," pp. 364-68.

TABLE XI
THE RELATIONSHIP BETWEEN THE MEAN AND TWO STAND-
ARD DEVIATIONS ABOVE THE MEAN ON MMPI SCALES
OF SCST STUDENTS AND GENERAL
POPULATION MALES
(N-179)

<u>MALE POPULATION</u>						
General Population		SCST		General Population		SCST
MMPI Scales	Mean	Mean	Differ- ence	2 SD's	2 SD's	Differ- ence
L	50.15	51.74	+ 1.59	69.32	68.28	- 1.04
F	52.64	48.96	- 3.68	80.08	57.96	-22.12
K	51.90	64.88	+13.98	73.54	79.30	+ 5.76
Hs	50.02	52.84	+ 2.82	70.28	63.98	- 6.30
D	49.86	50.06	+ 0.20	69.98	64.04	- 5.94
Hy	49.98	60.83	+10.85	70.02	71.95	+ 1.93
Pd	50.90	58.90	+ 8.00	70.04	72.96	+ 2.92
Mf	49.88	65.22	+15.34	70.40	82.50	+12.10
Pa	50.18	55.40	+ 5.22	70.54	68.68	- 1.86
Pt	49.90	56.44	+ 6.54	70.42	69.50	- 0.92
Sc	50.26	56.46	+ 6.20	70.36	69.12	- 1.24
Ma	50.00	56.56	+ 3.56	69.58	74.98	+ 5.40
Si	50.00	43.68	- 6.32	71.16	55.84	-15.32
Number		179			179	

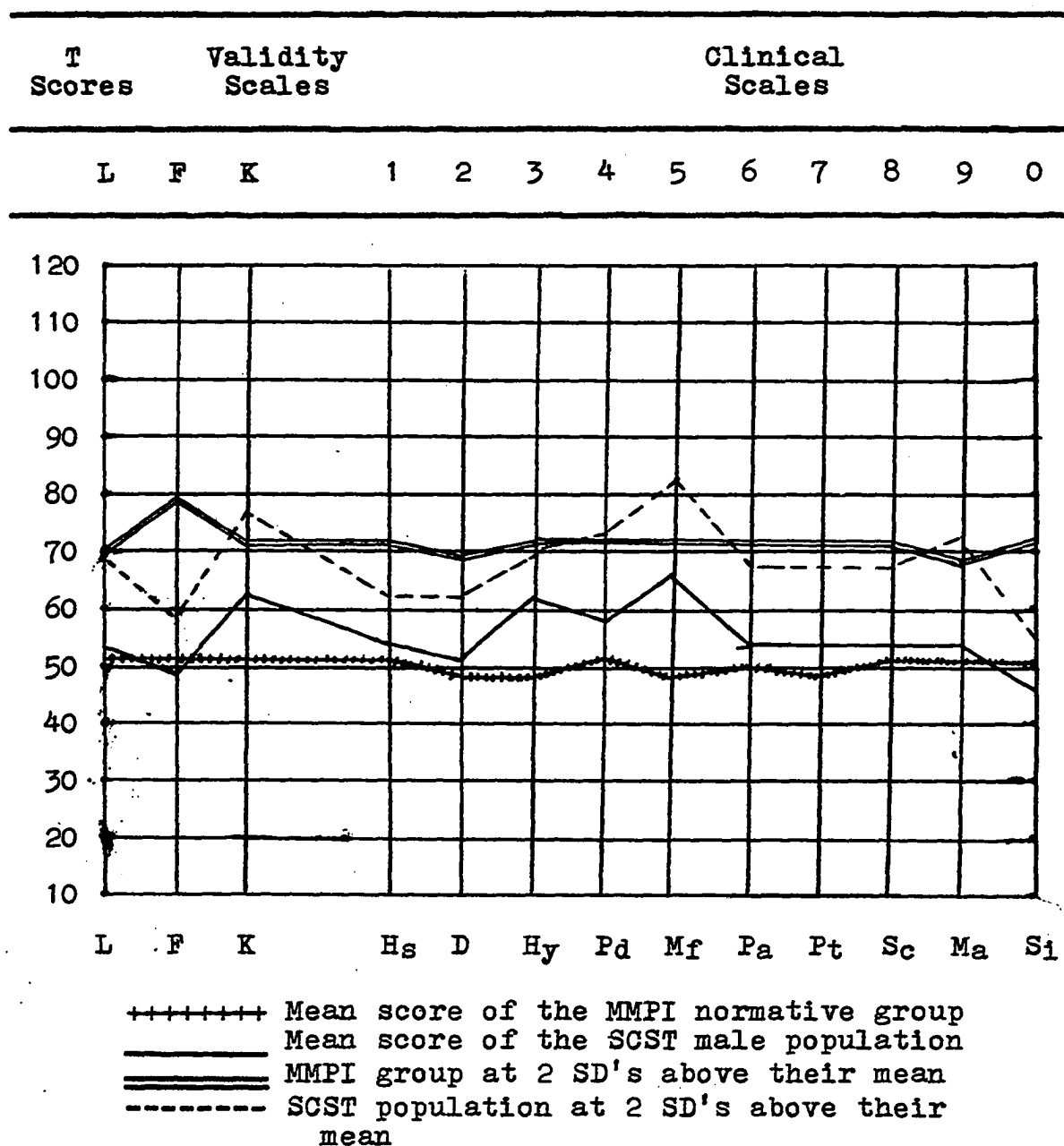


FIGURE 3

MEAN SCORES ON MMPI SCALES FOR THE NORMATIVE GROUP
AND THE SCST MALE POPULATION AND AT TWO
STANDARD DEVIATIONS ABOVE
THEIR OWN MEANS

It may be noted that the L and F scales of seminary students are close to the general population, but at two standard deviations above the mean the seminary students show a considerably lower F score, which may indicate that the students' responses are more rational and relatively pertinent to the questions. The K score of students is much higher than the general population, and may indicate a defensiveness against psychological weakness, and concern and tension over personal and social problems that may be characteristic of clergymen and seminary students. At two standard deviations above the mean, where it is more likely to reflect a serious maladjustment, there is less difference than at the mean.

The seminary students tend to be lower on the Hs and D scales and generally higher on the Hy scale than the general population. They are higher on Pd, the Mf, and all three of the psychotic scales. The Mf score greatly exceeds the general population and the difference probably appears in an increased similarity to feminine values, attitudes and interests, and styles of expression and speech, rather than in any tendency toward sexual preferences. There is a uniform heightening of the three psychotic scales, but at two standard deviations above the mean, where it is more likely to reflect a serious maladjustment, the scores would be less than the general population scores. There is a tendency to be higher on the Ma and lower on the

Si scale. This may reflect some characteristic tendency toward overproductivity in thought and action, and an enthusiastic concern about reform of social practices. This may be an elevation of normal ambition and a vigorous extraversion which is not a negative quality unless there is a lack of regard for social conventions, or is coupled with high psychotic scores.

F. The Southern California School of Theology Seminary Student as Compared With Students of Another Theological Seminary

The need for norms that reflect some of the personality traits that are common among clergymen and demonstrate the variance from the MMPI normative group may be seen in the points where one seminary group is similar to other seminary groups and different from the general population. The seminary certainly demands a specialized way of life, and it is possible that the general norms of adjustment, made on the basis of the population at large, would have to be so modified when applied to this group as to be substantially inapplicable. If, on the other hand, the essential applicability of the test to a seminary group is demonstrated, there may be areas in which modification of the general norms is called for. If there prove to be areas of adjustment in which seminary groups differ significantly from the general population, it is important that

the seminarian be evaluated, in respect to his mental health, by these modified norms, for this is the specialized way of life to which he proposes to apply himself both as a seminarian and as a minister. There are many ways in which clergymen are like all other people, but it is important to understand the points of variance and the extent to which general norms are applicable. There can be no assumption that the existing groups of clergymen are the most effective clergymen, and that prospective ministers should be chosen to match existing clergymen, but the discriminating traits of clergymen need to be known and observed. It can scarcely be doubted that an unsatisfactory adjustment in one way of life may be very acceptable in another. It may be that a person would score poorly in adjustment if judged by general norms, but may adjust very well to seminary life and the ministry. It may be that these apparent distortions of personality account for the ability of an individual to work effectively in certain specialized vocations. The specific point of this study is to see the extent that general norms have to be modified in relation to seminary groups.

For the purpose of comparing the norms that were derived from MMPI tests which were administered in SCST, with other seminaries, it was possible to secure similar data from only one other seminary. Several other seminaries were associated in testing program conducted by the Board

of Theological Education of the denominations sponsoring the seminaries and could not supply test data on any one seminary population. The Fuller Theological Seminary, Pasadena, California, supplied MMPI test results and other information regarding the junior class enrolling in 1962.

The Fuller Theological Seminary norms are comparable with the norms of SCST in that both groups are quite heterogeneous.

The Fuller Theological Seminary is about twenty-five miles from SCST, but their students come from a widely different denominational and academic background. The seminary is described as "Christ-centered" and "the purpose of the institution to turn out men who are steeped in the Word of God."³ In the category of theological perspective, the school may be described as orthodox, while SCST is in the liberal tradition.

There were 104 students (male-91, female-13) who took the MMPI test. The marital status of the male population in this seminary, as represented by the class of students is shown in Table XII, page 100.

The age of the students does not become a factor in this study, but the homogeneity of the population may be indicated in the distribution of ages of the male group as it is shown in Table XIII, page 101.

³ Fuller Theological Seminary; p.8.

TABLE XII

MARITAL STATUS OF MALE POPULATION OF REPRESENTATIVE CLASS OF STUDENTS FROM THE
FULLER THEOLOGICAL SEMINARY
(N-91)

Marital Status	Number of Students	Percentage
Married	40	44.00
Single	51	56.00
Total	91	100.00

TABLE XIII
AGE DISTRIBUTION OF MALE POPULATION
OF THE FULLER THEOLOGICAL SEMINARY
(N-91)

Range of Ages	Number	Percentages
50 - 54	1	1.09
45 - 49	0	0.00
40 - 44	1	1.09
35 - 39	3	3.31
30 - 34	7	7.70
25 - 29	25	27.70
20 - 24	54	59.34
Total	91	100.00

The mode of the group is twenty-two years, and the range is twenty-one to fifty-four years. The average at the time of admission is 25.5 years for the male student.

The male students in this class came from sixty-three different colleges. The distribution of male students from the various colleges and the number of students from the various colleges and the number of students from each college is shown in Table XIV, pages 103 through page 106.

TABLE XIV
DISTRIBUTION OF MALE STUDENTS FROM VARIOUS
COLLEGES IN THE FULLER THEOLOG-
ICAL SEMINARY POPULATION
(N-91)

Colleges	Number	Percentages
Wheaton College	12	13.18
University of California, Los Angeles	5	5.48
Whitworth College	4	4.38
Taylor University	3	3.28
Westmont College	3	3.28
Bethel College	2	2.20
Houghton College	2	2.20
University of California, Berkeley	2	2.20
University of Illinois	2	2.20
University of Minnesota	2	2.20
University of Redlands	2	2.20
Bible Institute of Los Angeles	1	1.10
Bowdoin	1	1.10
California Western University	1	1.10
Central State College	1	1.10
Chung Chi College	1	1.10
Dartmouth	1	1.10
Dickinson College	1	1.10

TABLE XIV (continued)

Colleges	Number	Percentages
Duke University	1	1.10
Evangel College	1	1.10
Hamline University	1	1.10
Hong Kong University	1	1.10
Illinois Institute of Technology	1	1.10
Japan Christian College	1	1.10
Kyung Hu University	1	1.10
Long Beach State College	1	1.10
Los Angeles Pacific College	1	1.10
Los Angeles State College	1	1.10
Malone College	1	1.10
Michigan State University	1	1.10
Mississippi State University	1	1.10
Occidental College	1	1.10
Pacific Lutheran College	1	1.10
Pasadena College	1	1.10
Pepperdine College	1	1.10
Philadelphia College of the Bible	1	1.10
San Francisco State College	1	1.10
Seattle Pacific College	1	1.10
Simpson Bible College	1	1.10

TABLE XIV (continued)

Colleges	Number	Percentages
Southern California College	1	1.10
St. Cloud State College	1	1.10
Sterling College	1	1.10
Taiwan Theological Seminary	1	1.10
University of California, Davis	1	1.10
University of California, Santa Barbara	1	1.10
University of Chattanooga	1	1.10
University of Delaware	1	1.10
University of Hawaii	1	1.10
University of Michigan	1	1.10
University of Nebraska	1	1.10
University of Pittsburgh	1	1.10
University of Rochester	1	1.10
University of Southern California	1	1.10
University of Toronto	1	1.10
University of Washington	1	1.10
University of Wisconsin	1	1.10
United States Coast Guard Academy	1	1.10
United States Naval Academy	1	1.10
Victoria University of Wellington	1	1.10
Walla Walla College	1	1.10

TABLE XIV (continued)

Colleges	Number	Percentages
Wayne State College	1	1.10
Williams College	1	1.10
Yale University	1	1.10
Number	91	100.00

The distribution of denominations represented in this class of seminary students from Fuller Theological Seminary is shown in Table XV, pages 108 and 109.

Many of the groups to which these individuals claim affiliation are not well known, but the range of denominations represented seem to indicate the independent character of the seminarian as well as the seminary. The heterogeneous character of a Protestant seminary is seen in the diversity of factors represented in the background of those who compose the ministry of the church.

TABLE XV
DENOMINATIONS REPRESENTED IN THE FULLER
THEOLOGICAL SEMINARY POPULATION
(N-91)

Denominations	Number	Percentages
Baptist	26	28.57
Presbyterian	24	26.27
Methodist	4	4.40
United Church of Christ	4	4.40
Evangelical Covenant	3	3.32
Independent	3	3.32
Missionary Alliance	3	3.32
Assembly of God	2	2.20
Evangelical Free Church	2	2.20
Missionary Covenant	2	2.20
Plymouth Brethren	2	2.20
Bethany Church	1	1.10
Church of Christ	1	1.10
Church of God	1	1.10
Disciples of Christ	1	1.10
Episcopal	1	1.10
Evangelical Mennonite	1	1.10
Evangelical United Brethren	1	1.10
Free Methodist	1	1.10

TABLE XV (continued)

Denominations	Number	Percentages
Non-denominational	1	1.10
Pilgrim Holiness	1	1.10
Reformed Church in America	1	1.10
Reformed Presbyterian	1	1.10
Salvation Army	1	1.10
Seventh Day Adventist	1	1.10
United Brethren	1	1.10
Wesleyan Methodist	1	1.10
Total	91	100.00

The description of the female population of Fuller Theological Seminary needs to be completed here. Besides the information given previously regarding the population of Fuller Theological Seminary (page 99), some additional information will complete the description. The average age of the thirteen women, at the time of their admission to the seminary in 1962, was 23.5 years, the range of age was twenty-two to twenty-eight years, and the mode was twenty-two years. All of the women are single. They are graduates of ten different colleges:

Elmira College

Hope College

McGill University

Oswego State Teachers College

Stanmillis Teachers College

University of California, Los Angeles (2 students)

University of Oklahoma

University of Michigan

University of Rochester

Whitowrth College (2 students)

The female students claim seven different religious groupings:

Baptist (5 students)

Presbyterian (3 students)

Church of Ireland

Independent

Methodist

Non-denominational

Reformed Church in America

Perhaps the value of this study may be in the measure of qualities that tend to characterize the whole population seeking admittance to seminaries, rather than in a study of a limited segment of the ministry. Any attempt to study the extent that differences in age, marital status, college background, or denominational affiliation may affect particular factors would be very valuable, but the findings would be limited in their application to similar groups with like qualities. This heterogeneity is a quality that characterizes both seminaries, and is a kind of ecumenicity that is common in Protestant seminaries. Before proceeding further, the measures of central tendency and variability for the population of both male and female students in the Fuller Theological Seminary will be shown in Table XVI, page 112.

The MMPI scores on the male population of Fuller Theological Seminary indicates that the mean T-scores are considerably above the standard norm of fifty for the general population on all clinical scales, and below fifty only on the Si scale. The only scale that is over a standard deviation above the mean is the Mf scale. The mean T-score for seminary women is above fifty on all scales except the D, and the Mf scales. Their highest scores are on the Hy,

TABLE XVI
 MEAN STANDARD SCORES ON MMPI SCALES* ON A
 POPULATION OF MALE AND FEMALE FULLER
 THEOLOGICAL SEMINARY STUDENTS
 (N-91)
 (N-13)

MMPI Scales	Male		Female	
	Means	Deviations	Means	Deviations
L	50.15	8.61	50.77	7.27
F	50.95	5.49	51.00	4.73
K	60.68	7.57	65.00	7.97
Hs	53.27	6.81	52.62	4.57
D	50.93	9.43	49.54	9.80
Hy	59.35	6.27	58.08	7.88
Pd	59.45	7.35	57.92	7.38
Mf	62.02	8.19	49.77	3.88
Pa	54.69	7.86	55.54	6.10
Pt	56.89	8.21	56.38	6.08
Sc	57.33	7.94	56.85	4.28
Ma	54.79	9.16	52.08	8.97
Si	48.29	8.78	50.46	9.61
Number	91		13	

*K-corrected

Pd, Pt, Sc and Ma scales. The only score on the clinical scale that is higher than the male profile is on the Si scale, but the K score on the validity scale for women shows a greater defensiveness against psychological weakness than is shown by the men. The Mf score for women is near the norm of the general population, in contrast to the elevated score for the men. The profile of scores on the MMPI scales by this female population will be compared with the SCST females at a later time.

In order to demonstrate the extent of similarity between the male students of the two seminaries, the means, the differences, and the critical scores indicated at two standard deviations above the means will be shown in Table XVII, page 114.

There are no great differences in the mean scores on the MMPI scales between the two seminary populations. The SCST males show higher scores on the K, Mf, and Ma, but the Si score is lower than the Fuller Theological Seminary scores. At two standard deviations above the mean, where it is more likely to reflect a serious maladjustment, some greater differences may be seen. The K-factor of SCST males remains higher than that of the Fuller Theological Seminary males, but the F score is much lower, perhaps indicating a greater tendency to respond rationally. Whereas the Fuller Theological Seminary population scores on the Hs, D, Hy, Pd, Pa, Pt, and the Sc clinical scales were

TABLE XVII
THE RELATIONSHIP BETWEEN THE MEAN AND TWO STAND-
ARD DEVIATIONS ABOVE THE MEAN ON MMPI SCALES
OF SCST AND FULLER THEOLOGICAL SEMINARY
MALE POPULATION
(N-91)(N-179)

<u>MALE POPULATION</u>						
	Fuller	SCST		Fuller	SCST	
MMPI Scales	Mean	Mean	Differ- ence	2 SD's	2 SD's	Differ- ence
L	50.15	51.74	+ 1.59	67.37	68.28	+ 0.91
F	50.95	48.96	- 1.99	61.93	57.96	- 3.97
K	60.68	64.88	+ 4.20	75.82	79.30	+ 3.48
Hs	53.27	52.84	- 0.43	66.89	63.98	- 2.91
D	50.93	50.06	- 0.87	69.79	64.04	- 5.75
Hy	59.35	60.83	+ 0.48	71.89	71.95	+ 0.06
Pd	59.45	58.90	- 0.55	74.15	72.96	- 1.19
Mf	62.02	65.22	+ 3.20	78.40	82.50	+ 4.10
Pa	54.69	55.40	+ 0.71	70.41	68.68	- 1.73
Pt	56.89	56.44	- 0.45	73.31	69.50	- 3.81
Sc	57.33	56.46	- 0.87	73.21	69.12	- 4.09
Ma	54.79	56.56	+ 1.77	73.11	74.98	+ 1.87
Si	48.29	43.68	- 4.61	68.85	55.84	-13.01
Number	91	179		91	179	

close to the scores of the SCST group at the mean level, there was an average increase of 3.25 points at two SD's above the mean. The SCST population scores on the Hy, Pd, Mf, and Ma clinical scales are above the critical score level of seventy, where there is an increased similarity to clinical groups. The Fuller Theological Seminary population scores on the Hy, Pd, Mf, Pa, Pt, Sc, and Ma are over the critical score level, and the D and Si are just below this point. The Fuller Theological Seminary scores form a fairly normal configuration at the mean level, but at two SD's above the mean there is a statistical percentage that would show neurotic and psychotic complications. The highest score of the SCST males is on the Mf scale. The information given in Table XVII, page 114, will be shown in Figure 4, page 116.

There is considerable difference in the MMPI profile of the male and female students in a seminary, as it has been observed in the mean standard scores of students in SCST and in Fuller Theological Seminary, shown in Table IX, pages 85 and 86, and in Table XVI, page 112. The similarities in the pattern of male seminarians in the two seminaries are shown in TABLE XVII, page 114. The relationship between the means, the differences, and the critical scores at two standard deviations above the means on the MMPI scales for females in SCST and Fuller Theological Seminary will be shown in Table XVIII: page 117.

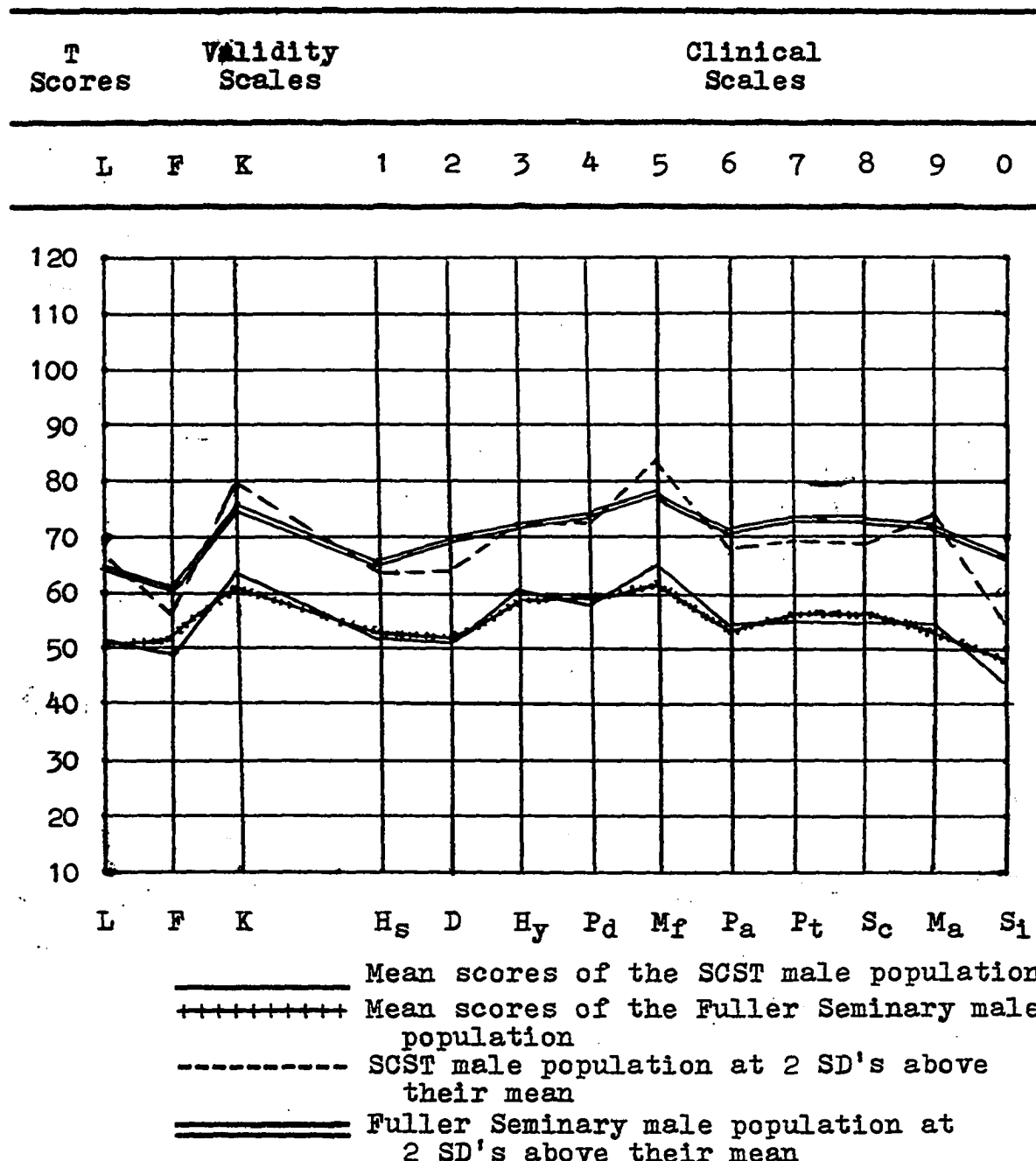


FIGURE 4

MEAN SCORES OF THE SCST MALE POPULATION, AND OF THE
 FULLER SEMINARY MALE POPULATION, AND AT TWO
 STANDARD DEVIATIONS ABOVE THEIR OWN MEAN
 (N-179) (N-91)

TABLE XVIII

THE RELATIONSHIP BETWEEN THE MEAN AND TWO STAND-
ARD DEVIATIONS ABOVE THE MEAN ON MMPI SCALES
OF SCST AND FULLER THEOLOGICAL SEMINARY
FEMALE POPULATION
(N-13) (N-13)

<u>FEMALE POPULATION</u>						
	Fuller	SCST		Fuller	SCST	
MMPI Scales	Mean	Mean	Differ- ence	2 SD's	2 SD's	Differ- ence
L	50.77	47.77	- 3.00	65.31	54.65	-10.65
F	51.00	47.15	- 3.85	60.46	52.55	- 7.91
K	65.00	58.77	- 6.23	80.94	75.33	- 5.61
Hs	52.62	47.46	- 5.16	61.76	58.62	- 3.04
D	49.54	46.77	- 2.77	69.14	61.89	- 7.25
Hy	58.08	57.15	- 0.93	73.84	67.87	- 5.97
Pd	57.92	54.08	- 3.84	72.68	75.42	+ 2.74
Mf	49.77	41.46	- 8.31	57.53	59.02	+ 1.49
Pa	55.54	51.31	- 4.23	67.74	71.29	+ 3.45
Pt	56.38	51.38	- 5.00	68.54	67.62	- 0.92
Sc	56.85	53.08	- 3.77	65.41	68.84	+ 3.43
Ma	52.08	57.15	+ 5.07	70.02	81.05	+11.02
Si	50.46	45.15	- 5.31	69.68	58.11	-11.57
Number	13	13		13	13	

The mean scores of the SCST females are lower than the Fuller Theological Seminary females on all scales except the Ma scale. The SCST female mean profile presents a configuration that is nearer the general female population norms on all the clinical scales except for elevations on the Hy and Ma scales, and a lower Mf and Si scale. In view of a profile that is fairly normal in other respects, except for some degree of extroversion as shown by a low Si score, the low Mf score seems to indicate that these females exaggerate the way they present themselves as feminine persons. The Fuller Theological Seminary females show the greatest elevation of scores on the Hy, Pd, Pa, Pt, and Sc scales, and a greater defensiveness against psychological weaknesses as indicated by a higher K score.

At two standard deviations above the mean, where it is more likely to reflect a serious maladjustment, greater differences are seen. The SCST female profile shows an increase among those who are defensive against psychological weaknesses, and the Pd, Pa, and Ma scores are over the critical score level of seventy, at which there is an increased similarity to clinical groups. The Mf score has remained fairly low and has not shown that this is a likely area of great maladjustment in the population. The Fuller Theological Seminary female profile shows a constant high level of defensiveness and scores above seventy on the Hy, Pd, and Ma scales. The Mf scale has remained stable.

G. The Southern California School of Theology Seminary Student Compared with Other Selected Seminary Groups

The male populations of SCST and Fuller Theological Seminary are both heterogeneous. Most Protestant seminaries are committed to the degree of ecumenical diversity that is represented in the range of applicants from various churches who possess the academic qualifications for admission. When all of the students of a seminary are tested, a great amount of the element of diversity may be expected in the scores that are presented. The degree that these divergent elements contribute to the norm scores could be measured by testing and comparing the populations representing each element or group. Something of the same result should be attained by comparing the means and standard deviations of these two heterogeneous seminaries with more homogeneous groups representing denominational populations outside these seminaries.

For the purpose of comparing the norms that were derived from MMPI tests administered in SCST with other seminary students preparing for the ministry of the Presbyterian and Lutheran churches.

Dr. Clifford E. Davis⁴ of the Board of Christian Education of the United Presbyterian Church, Philadelphia,

⁴Davis.

Pennsylvania, supplied the seminary norms that were derived from three hundred Presbyterian students selected at random from tests given to students entering the various theological seminaries of the Presbyterian church in 1957. Dr. J. Victor Benson,⁵ Secretary for Psychological Services of the Board of Theological Education, Lutheran church in America, New York City, New York, supplied the norms applicable among the seminaries of the Lutheran church, based upon a stratified sample of two hundred students selected randomly from a universe of two thousand Lutheran students.

The norms established by these two denominational agencies are based on students of those denominations entering the ministry and enrolled in their seminaries, and do not include students of other seminaries attending those seminaries. In that respect, the norms are denominational norms and are not seminary norms; however, they are valuable for the purpose of comparison with seminary groups in an effort to discover the character of personality that distinguish the seminarian from the general population or other groups. The similarities and differences should be seen by comparing the scores on each scale of the MMPI, the standard deviation of each group and the scores at two standard deviations above the mean, where the more serious maladjustments that may be peculiar to each group are more

⁵ Benson, Committee for Research . . .

likely to be observed. The MMPI code is also a key for comparing an individual or group with another individual or group. An MMPI code is a method for the quick numerical specification of the essential conformation and elevation of a profile by recording the number of the scales in order of magnitude of the accompanying scores, and is commonly used to describe MMPI profiles. The MMPI mean scores, standard deviations, scores at two standard deviations above the mean, and MMPI codes for SCST and the MMPI code will be shown in Table ~~XXX~~, pages 122 and 123. The MMPI scores at the mean for each group may be observed in Figure 5, page 124.

A pattern is recognizable in the scores of each of the seminary populations, but the mean score of SCST students is higher on all scales except F validity scale and the Si scale. The SCST students average 1.09 score points higher than the Presbyterian students on the clinical scales, and 4.51 score points higher than the Lutherans. If the profile of each of these populations is observed, it may be noted that the configuration is similar in each instance. The SCST students have only slightly lower scores of the F validity scale and the Si scale.

When the scores of the three seminary groups are compared at two standard deviations above the mean, where the divergent elements of the population are likely to be observed, there are several changes in the profile. The

TABLE XIX

THE MMPI MEAN SCORES, STANDARD DEVIATIONS SCORES
AT TWO STANDARD DEVIATIONS ABOVE THE MEAN, AND
MMPI CODES FOR SCST, PRESBYTERIAN AND LUTHERAN
SEMINARY POPULATIONS, WITH THE DEGREE OF DIF-
FERENCE BETWEEN THE SEMINARIANS AND
THE MMPI CODE

SCST* (N-179)	L	F	K	Hs	D
Mean	51.74	48.96	64.88	52.84	50.06
MMPI Code: 53-49876 12/0 K-L/F					
Sigma	8.27	4.50	7.21	5.57	6.00
2 SD's	68.28	57.96	79.30	63.98	64.04
MMPI Code: 5"943'786 21-0					
<hr/>					
Presbyterians* (N-300)					
Mean	51.02	49.48	62.00	51.91	47.58
MMPI Code: 5-3498671/20 K-L/F					
Sigma	8.41	4.72	7.88	7.39	8.62
2 SD's	67.84	58.92	77.76	66.70	64.82
MMPI Code: 5"943876' 12-0					
Differences with SCST	- 0.44	+ 0.96	- 1.54	+ 2.72	+ 0.78
<hr/>					
Lutherans* (N-220)					
Mean	49.20	49.80	54.60	49.70	45.90
MMPI Code: 5346879/120 K/FL					
Sigma	6.80	6.10	7.60	7.70	9.30
2 SD's	62.80	62.00	69.80	65.10	64.50
MMPI Code: 54739'8612-0					
Differences with SCST	- 5.48	+ 4.40	- 9.50	+ 1.12	+ 0.46

*K-corrected

TABLE XIX (continued)

Hy	Pd	Mf	Pa	Pt	Sc	Ma	Si
60.83	58.90	65.22	55.40	56.44	56.46	56.56	43.68
5.56	7.03	8.64	6.64	6.53	6.33	9.21	6.08
71.95	72.96	82.50	68.68	69.50	69.12	74.98	52.84
59.16	57.45	64.54	55.37	55.22	55.82	55.91	44.31
7.14	8.90	8.58	8.17	9.46	8.74	10.40	7.37
73.44	75.26	81.70	71.71	73.14	73.31	76.71	58.06
+1.49 + 2.30 - 0.80 + 3.03 + 3.64 + 3.19 + 1.73 + 2.22							
54.60	53.40	59.70	52.40	52.10	52.30	52.10	44.70
8.30	9.90	9.20	7.20	10.10	8.80	9.50	7.40
71.20	73.20	78.10	66.80	72.30	69.90	71.10	59.50
-0.75 + 0.24 - 4.40 - 1.88 + 2.80 + 0.78 - 3.88 + 3.66							

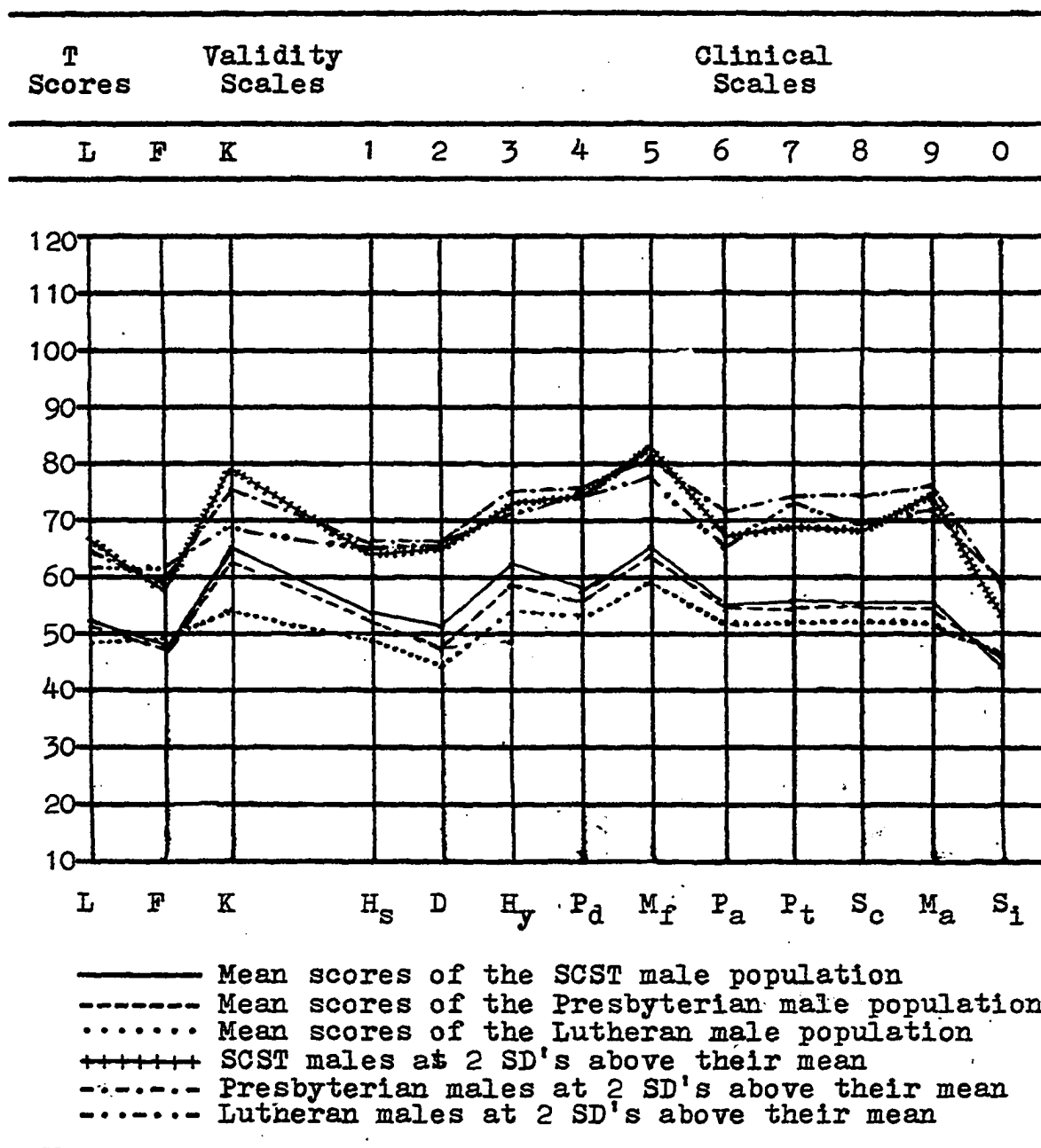


FIGURE 5

MEAN SCORES OF THE SCST MALE POPULATION, THE PRESBY-
 TERIAN SEMINARY MALE POPULATION AND THE LUTHERAN
 SEMINARY MALE POPULATION AND AT TWO STANDARD
 DEVIATIONS ABOVE THEIR OWN MEAN
 (N-179) (N-300) (N-200)

scores of the Presbyterian students on the clinical scale average two points higher than the scores of SCST students, and are less than one point lower on one scale, the Mf scale. Considerable difference may be seen on all the other scales. The scores of the Lutheran students on the clinical scales average .18 lower than the scores of the SCST students. The scores on the Hs, D, Pd, Pt, Sc, and Si average 1.51 points higher than SCST students, with the greatest elevation on the Pt and Sc scales. The scores are lower than SCST students on the Hy, Mf, Pa, and Ma scales, with the greatest difference shown in higher scores on the Mf and Ma scales for SCST students.

There seems to be very little in the profile of the three groups of theology students that would characterize any one group or discriminate the element of heterogeneity that was expected in SCST. The only scores that are consistently different are higher scores on the K and Mf scales, and a lower score on the Si scale.

H. Intercorrelation of Minnesota Multiphasic Personality Inventory Scales

The MMPI is used in 65 per cent of the seminaries as an aid in counseling and screening the individual student. Most users have assumed that the items and tests already in use are themselves valid, and they have not questioned the soundness of profiles or patterns of scores obtained on an

inventory. Most personality inventories are normally designed for individual assessment where the user is aware of the external factors involved in the situation and is able to check the validity of the test by what he observes in the subsequent behavior of his client. In the literature, most studies are of group discriminations, and since these group results are rarely consistently discriminative, it is clear that the validity of these tests for the main purpose which they have been designed is also, as yet, far from being established. Since the deviations that are obtained in any individual profile must be checked by other procedures, it is expected that the scores on any test that indicates a pathological condition of a group will still be compared with the judgment of counselors and clinicians.

The MMPI was not intended for use in discriminating individuals on normal traits in the normal population, yet it is being used for that purpose. The original use was to discriminate among categories of pathology for those who are abnormal, but the purpose now is to discriminate the abnormal from the normal. In its use with special populations, such as a seminary group where the scores are in the direction of pathological trends, it seems important to comment on the intercorrelations among the basic scales derived from the norms that have been established for SCST males and females. To measure the inter-scale relationships of the MMPI, or to investigate the extent that one scale

measures the same personality factor as another, should be indicated by the index of internal consistency, shown by the Pearson's product-moment correlation coefficient indicating the relation that one scale has to the other. The MMPI test is heterogeneous in the sense that each scale is supposed to measure different patterns of traits and thereby will not likely show a very high index of internal consistency. Actually, if it were possible for all of the factors to be sharply measured and separated, the correlation would approach zero. In the case of the MMPI, there is considerable item overlap⁶ and since the important object is not to determine that an individual has one trait or another it will serve to describe a configuration of personality. Because of the mixture of components that is involved in any pathological etiology, it may be expected that the coefficient correlations derived from the scores obtained in this test of seminary students will be low except in those areas where the coefficient is higher on particular scales because of the heightened scales that prevail among seminary students. Some intercorrelation will appear because it is the kind of test that it is, but it may be that the strength of these relationships may show something about the general adjustment and that, the higher it is, the poorer the adjustment; the lower, the better adjustment. The

⁶Wheeler, pp. 165-171.

intercorrelation of the MMPI test variables with the male population of SCST is shown in Table XX, pages 129 and 130.

If the variables on which there is a significant correlation that ranges from a low to moderate relationship (.20 to .70) are lifted from this matrix, it may be seen more clearly that there is a moderate range of correlations among the variables that characterize the profile of the male seminary group. The matrix of low and moderate significant correlation coefficients on MMPI test variables that represent the high scores of the male profile are seen in Table XXI, pages 131 and 132.

The correlations are mostly in the low range, but are significant at the .01 level of confidence, and only three of the thirty-eight are negative. The underlying tendencies are positive and in the same direction, so it may be considered to support the validity of the tests as they were administered to the seminary population. The number of coefficients showing an interrelationship among the clinical scales seem to conform with the scores presented in the profile scores which show an elevation on all scales.

In the case of SCST females, there were several differences with the male MMPI profile, mainly in an over-all lower configuration of the female pattern. The T-scores of women are nearer that of the general population and might be called more "normal", but the population is restricted

TABLE XX

INTERCORRELATIONS OF THE MMPI TEST VARIABLES
WITH THE MALE POPULATION OF SCST
(N-179)

Variables	L	F	K	Hs	D	Hy	Pd
L							
F	.02						
K	.46**	-.10					
Hs	.20**	.06	.45**				
D	.05	.02	.09	.18*			
Hy	.33**	.00	.42**	.56**	.29**		
Pd	.01	.18*	.30**	.15*	.25**	.35**	
Mf	-.16*	.11	-.20*	-.02	.22**	.13	.03
Pa	.06	.08	.20*	.13	-.04	.25**	.26**
Pt	-.04	.17*	.06	.24**	.40**	.34**	.32**
Sc	.05	.27**	.40**	.24**	.28*	.32**	.55**
Ma	-.06	.16*	-.20*	-.06	-.22**	-.03	.19*
Si	-.13	.16*	-.44**	-.09	.32**	-.14	-.09

(T-scores converted with K-corrections)

*Significant at the .05 level of confidence

**Significant at the .01 level of confidence

TABLE XX (continued)

Variables	Mf	Pa	Pt	Sc	Ma
L					
F					
K					
Hs					
D					
Hy					
Pd					
Mf					
Pa	.10				
Pt	.41**	.32**			
Sc	.10	.34**	.56**		
Ma	.16*	.20**	.30**	.26**	
Si	.18*	-.08	.22**	-.00	-.14

TABLE XXI
MATRIX OF LOW AND MODERATE CORRELATION CO-
EFFICIENTS ON MMPI TEST VARIABLES
OF SCST MALES
(N-179)

Variables	L	F	K	Hs	D	Hy	Pd
K	.46**						
Hs	.20**		.45**				
Hy	.33**		.42**	.56**	.29**		
Pd			.30**		.25**	.35**	
Mf			-.20**		.22**		
Pa						.25**	.26**
Pt				.24**	.40**	.34**	.32**
Sc		.27**	.40**	.24**	.28**	.32**	.55**
Ma			-.20**		-.22**		
Si			-.44**		.32**		

* Significant at .01 level of confidence

TABLE XXI (continued)

Variables	Mf	Pa	Pt	Sc	Ma
K					
Hs					
Hy					
Pd					
Mf					
Pa	.26**				
Pt	.32**	.32**			
Sc	.55**	.34**	.56**		
Ma		.20**	.32**	.26**	
Si			.22**		

(T-scores converted with K-corrections)

in range by the smallness and heterogeneity of the group, and this fact is likely to be reflected in the higher coefficients of correlation. The intercorrelations of the MMPI test variables with the female population of SCST is shown in Table XXII, pages 134 and 135.

If the variables on which there is a correlation that indicates that one variable is sharing in the weight of another are lifted from this table, it may indicate more closely the concomitant factors involved in the profile of women, although only a few coefficients approach the level of statistical significance. The matrix of low and moderate correlation coefficients on the MMPI test variables that represent the high scores of the female SCST profile are seen in Table XXIII, pages 136 and 137.

This matrix of low and moderate correlation coefficients show small to substantial relationship between fifty-six of the eighty-five measures, however, with an N of 13 a coefficient of .514 is significant at the .05 level of confidence. Almost half of these coefficients are a reflection of the variable scales. The Hs and Ma reflect their function in the profile with the highest correlations with other scales. It may be noted that these scales are the high points in the female profile. Although some intercorrelation is expected between factors that are involved in scales that measure pathological categories of personality, it seems that the range of scores shown in the

TABLE XXII
INTERCORRELATIONS OF THE MMPI TEST VARIABLES
WITH THE FEMALE POPULATION OF SCST
(N-13)

Variables	L	F	K	Hs	D	Hy	Pd
L							
F	.32						
K	.49	-.26					
Hs	.10	-.23	.65**				
D	-.73**	.05	-.54*	-.16			
Hy	.19	-.02	.44	.67**	.06		
Pd	.32	-.07	.51	.40	-.10	.57*	
Mf	.16	-.31	.29	.39	-.38	.24	-.12
Pa	-.28	-.04	.27	.49	.25	.66**	.44
Pt	.16	.47	.44	.47	.10	.40	.37
Sc	.24	.47	.40	.52*	.02	.46	.36
Ma	.71	.47	.34	.28	-.29	.48	.34
Si	.50	.40	-.44	-.12	.53*	-.18	.06

*Significant at the .05 level of confidence

**Significant at the .01 level of confidence

TABLE XXII (continued)

Variables	Mf	Pa	Pt	Sc	Ma
L					
F					
K					
Hs					
D					
Hy					
Pd					
Mf					
Pa	.08				
Pt	-.20	.33			
Sc	-.11	.46	.77**		
Ma	-.10	-.15	.47	.53*	
Si	-.24	.30	.38	.19	-.41

(T-scores converted with K-corrections)

TABLE XXIII
MATRIX OF LOW AND MODERATE CORRELATION CO-
EFFICIENTS ON MMPI TEST VARIABLES
OF SCST FEMALES
(N-13)

Variables	L	F	K	Hs	D	Hy	Pd
F	.32						
K	.49	-.26					
Hs			.63*				
D	-.73**		-.54*				
Hy			.44	.67**			
Pd	.32		.51	.40		.57*	
Mf		-.31	.29	.39	-.38	.24	
Pa	-.28		.27	.49	.25	.66**	.44
Pt		.47	.44	.47		.40	.37
Sc	.24	.47	.40	.52		.46	.36
Ma	.71	.47	.34	.28	-.29	.48	.34
Si	.50	.40	-.44		.53		

*Significant at .05 level of confidence

**Significant at .01 level of confidence

TABLE XXIII (continued)

Variables	Mf	Pa	Pt	Sc	Ma
F					
K					
Hs					
D					
Hy					
Pd					
Mf					
Pa					
Pt	-.20	.33			
Sc		.46	.77**		
Ma			.47	.53*	
Si	-.24	.30	.38		-.41

in this matrix may have some bearing on the style of adjustment that is presented by the women in this group and supports the profile of scores obtained on the scales of the MMPI.

Available data do not afford very conclusive insight into the sources of variance of the MMPI scales from these intercorrelational matrices. However, more explicit conclusions might be derived from formal factor analytic approaches to such groups.

I. Summary

In the comparison of the General Population⁷ and SCST student norms, it is apparent that the original norms that are used in discriminating degrees of pathological patterns are not entirely appropriate for use with seminary students. Seminary norms are necessary, not only because both seminary males and females differ in their scores and profiles as compared with the original norm group, but because the male and female groups of seminarians differ considerably from each other. As the SCST seminarian was compared with the seminarians of another seminary and with those of two different denominations from different regions, there was a characteristic profile that differed little from one group to another, in spite of considerable

⁷Hathaway, "Some Normative Data . . .", pp. 364-68.

heterogeneity. The seminary males generally had peaks on the Mf, Ma, Pd, Hy, Sc, Pt, and Pa, which suggests that they tend toward greater femininity in their interests, are more active, and worry more than men-in-general. The differences between the seminary male and female are less in the shape of the MMPI profile than in the elevation of the over-all pattern. The configuration in the mean patterns for the two groups are essentially the same, the difference being that the female profile is lower. The exceptions are the Ma scale, on which the male and female scores are very close, and on the Mf scale, when the seminary females are less masculine than the males are feminine in their interests, as compared with the general population.

The intercorrelationship of the scores on the MMPI scales seems to support the profiles that are presented by the elevation of the mean scores of the male and female populations of this study; however, more explicit conclusions might be derived from formal factor analytic approaches to seminary groups.

CHAPTER VII

THE GUILFORD-ZIMMERMAN TEMPERAMENT

SURVEY AND ITS NORMS

A. The Relation of the Guilford-Zimmerman Temperament Survey to the Minnesota Multiphasic Personality Inventory

The GZTS is the second in the battery of tests used by SCST in assessing the personality of students admitted as seminarians. The test is valuable in its own right, but it also supplements the MMPI by verifying or checking the complex syndromes of behavior that are measured by these scales. The use of the MMPI for the study of the normal person is based on the assumption that the factors of normal behavior are the same as those of abnormal behavior. The difference between mental sickness and mental health are not differences of kind, but of degree. Accordingly, the forms of neurosis and psychosis represented in the scales of the MMPI must be regarded as extreme developments or distortions of the same processes of adjustment or patterns of behavior which healthy people use. The categories of psychiatric diagnosis should therefore constitute a useful system of dimensions for describing any personality

system. Since there are actually ten symptom complexes with many common elements in the MMPI, the GZTS offers a factorial approach in measuring some of the factors that underlie adaptive behavior and constitute what may be called the personality or character of a person.

B. Personality and the Traits of Temperament

In the consideration of personality as it is used in this study, the definition by G. W. Allport may help to explain the necessity of taking more than one test of personality. He defines personality thus, "Personality is the dynamic organization within the individual of those psychophysical systems that determine his characteristic behavior and thought."¹ The term "character" is sometimes used interchangeably with the term "personality." The first word is of Latin derivation; the second is Greek, and both refer to the mark of a man--his pattern of traits or his life style. One word, "persona," suggests appearance, surface quality; the other word, "character," suggests deep, fixed, and basic structure. Whichever word we may use, we know that both words can be defined as a person's unique pattern of traits. A trait is any relatively enduring way in which a person differs from others, a difference which places the emphasis on individuality.

¹Allport, Pattern and Growth . . ., p. 28.

The outstanding characteristic of man is his individuality and the personality of each man is a unique integration of traits. These traits are numerous, and in the exploration of this field, Allport and Odbert² listed almost 18,000 trait names and related terms in the English language. Cattell reduced this list to 171 traits that he designated "the personality sphere."³ He noticed that many of these traits are expressed in terms of opposite poles, and his analysis of the interrelation of traits reduced his system to twelve traits or factors.

Many other psychologists contributed to this study, and the trend was toward the measurement of basic modalities. J. P. Guilford⁴ was interested in test construction and also moved toward the goal of finding a limited number of descriptive variables that would fit a large number of unique individuals. His idea was that if ten scalable, common behavior traits, each with only ten distinct steps, were combined in all possible ways, these would describe 10^{10} (ten to the tenth power) unique individuals. With all the number of traits and the dimensions that may be found

²Allport, "Trait-names . . .", p. 211.

³Diamond, p. 164.

⁴Guilford, Personality, p. 93

in any personality, there will always be something unaccounted for in each person. The urge for economy called for the selection of some reasonably distinct identifiable traits for general purposes, which may vary independently in the individual cast.

Guilford observed that beyond the combination of abstract trait elements that constitute the unique individual there is an active quality that must be expressed in modal terms. He worked within the ten categories of traits to measure the quality and intensity of moods, which as a group of traits was called temperament.

Temperament has been a poorly defined modality of behavior. In one sense it has included behavior traits left over when the other classes have been completed. It is a distinctive aspect of personality that needs to be understood, as it is related to other modalities. The personality is an integrated whole that resists definition. We see only a few facets of it at a time, as we may view it from different reference points. Personality is the expression, not of an aggregation of traits, but of their interrelationship. A study of the individual personality cannot be made, therefore, merely by assessing traits, for these are only segmental observations. Any assessment of traits is of value mainly in the study of the individual as he is considered as a member of a group, and the value lies in the light thrown on the distribution of a given behavior

quality within the group. The study of temperament traits among seminarians describes the manner in which these persons, as individuals, tend to act and respond within groups. An assessment of these qualities of personality are important for the guidance counselor as he studies the vocational suitability and academic ability of the prospective clergyman. Actually, the seminarian may receive grades in class on the merit of academic achievement alone, but any prediction of his success as a clergyman in a parish will include the manner and spirit in which he approaches his task and an assessment of temperament should be included in the consideration of his acceptance as a seminary student.

C. The Guilford-Zimmerman Measurement of Temperament Traits

The work of many years by Guilford and his associates in the appraisal of personality by several inventories has resulted in a questionnaire test called the Guilford-Zimmerman Temperament Survey, which is the instrument considered in this study. The dimensions of temperament that are measured by the survey pertain primarily to the manner in which a person's behavior occurs, as distinguished from what he does or how well he does it. These dimensions account for what is commonly known as an individual's "disposition," or "temperament."

Among the dimensions of temperament are the factors

of general activity versus inactivity, restraint versus impulsiveness, ascendance versus submissiveness, sociability versus shyness, emotional stability versus instability, objectivity versus subjectivity, friendliness versus hostility, thoughtfulness versus unreflectiveness, personal relations versus criticalness, and masculinity versus femininity. A brief description of the GZTS traits are included in Appendix C for use in interpreting the scales.

The survey has been constructed by a long research process of factor analysis, with more or less distinctions being made between factors, that is, whether the person is inclined toward a positive or negative disposition, whether he is responsive or unresponsive, controlled or uncontrolled. The naming of opposite directions in each case is a function of the general bipolarity of the dimensions in the domain of temperament. No single temperament trait may change greatly to the exclusion of other tendencies. It is unsatisfactory to characterize an individual according to his strongest temperamental disposition. The various temperamental modes do not stand in the same relative strength from moment to moment. The most useful way to characterize the temperamental pattern of an individual is to discover the dynamic pattern which tends to repeat itself in his experience under many diverse circumstances. The healthy individual is able to make responses to most situations by an appropriate action which is measured by a

characteristic mode. In neurotic behavior, the individual may show such an inclination toward one or another mode of response that he loses normal flexibility of adjustment to varying situations.

The GZTS, as described in the manual,⁵ is a three hundred item questionnaire, with thirty items provided for each of the ten traits, and no item is used for appraising more than one trait. The obtained scores are placed on a profile sheet and are ranged from a score of one, which represents the negative pole of a trait, to its opposite pole of thirty. The profile sheet has three reference scales: The C scale, the centile-rank scale, and the T scale. The raw-score norms of the normative group are between ten and twenty-one on the various scales. The integer representing the norm for each temperament trait is placed in the median space so the score levels of each trait can be compared with all other traits. The relative level of scores on the profile sheet forms a profile of temperament traits.

The norms for the test are based on research with 523 college men and 389 college women in one Southern California University and two Junior Colleges, except for the norms of trait T, which was introduced later after research with another group. The value of the test, for use with college or graduate school groups, is enhanced by the fact

⁵Guilford, The Guilford-Zimmerman . . .

that the normative group is from a college setting. The test is characterized by care in the preparation and analysis of the items. The reliability coefficients are high, and its validity is attested by its use in many settings, including fifteen per cent of the seminaries in the American Association of Theological Schools.

D. The Guilford-Zimmerman Temperament Survey and Its Norms

The GZTS has been given to all students enrolled in SCST since the school was founded in 1957. The test has been given to 221 males and 13 females. The mean scores, standard deviations, and standard error of the mean on the GZTS on the total population of both males and females of SCST will be shown in Table XXIV, page 148.

When these norms are seen in a table it is difficult to see the relationship of the various scores. As mentioned previously, the raw-score of each trait is placed on a scaled line so the degree of trait intensity may be seen in relation to the normative level of that trait, and also the elevation of the trait in relation to other traits. The means of the scores for SCST males and females may be interpreted more effectively when seen on a figure chart. This information will be shown in Figure 6, page 149.

TABLE XXIV

MEAN SCORES, STANDARD DEVIATIONS AND STANDARD
ERROR OF THE MEAN ON THE GZTS FOR
MALES AND FEMALES OF SCST
(N221, N-13)

Trait	Means		Standard Deviation		Standard Error of the Mean	
	Males	Females	Males	Females	Males	Females
G	18.25	16.69	5.05	4.87	.34	1.41
R	19.59	19.77	4.04	3.59	.27	1.04
A	19.08	14.31	4.92	3.75	.33	1.08
S	22.63	22.54	5.17	3.69	.35	1.06
E	22.17	21.69	5.07	4.55	.34	1.31
O	21.91	21.31	4.08	4.33	.27	1.25
F	20.14	21.85	4.45	5.30	.30	1.53
T	21.45	18.00	3.94	4.75	.27	1.36
P	22.45	23.46	4.74	3.04	.32	.88
M	19.52	11.23	3.52	2.39	.24	.69

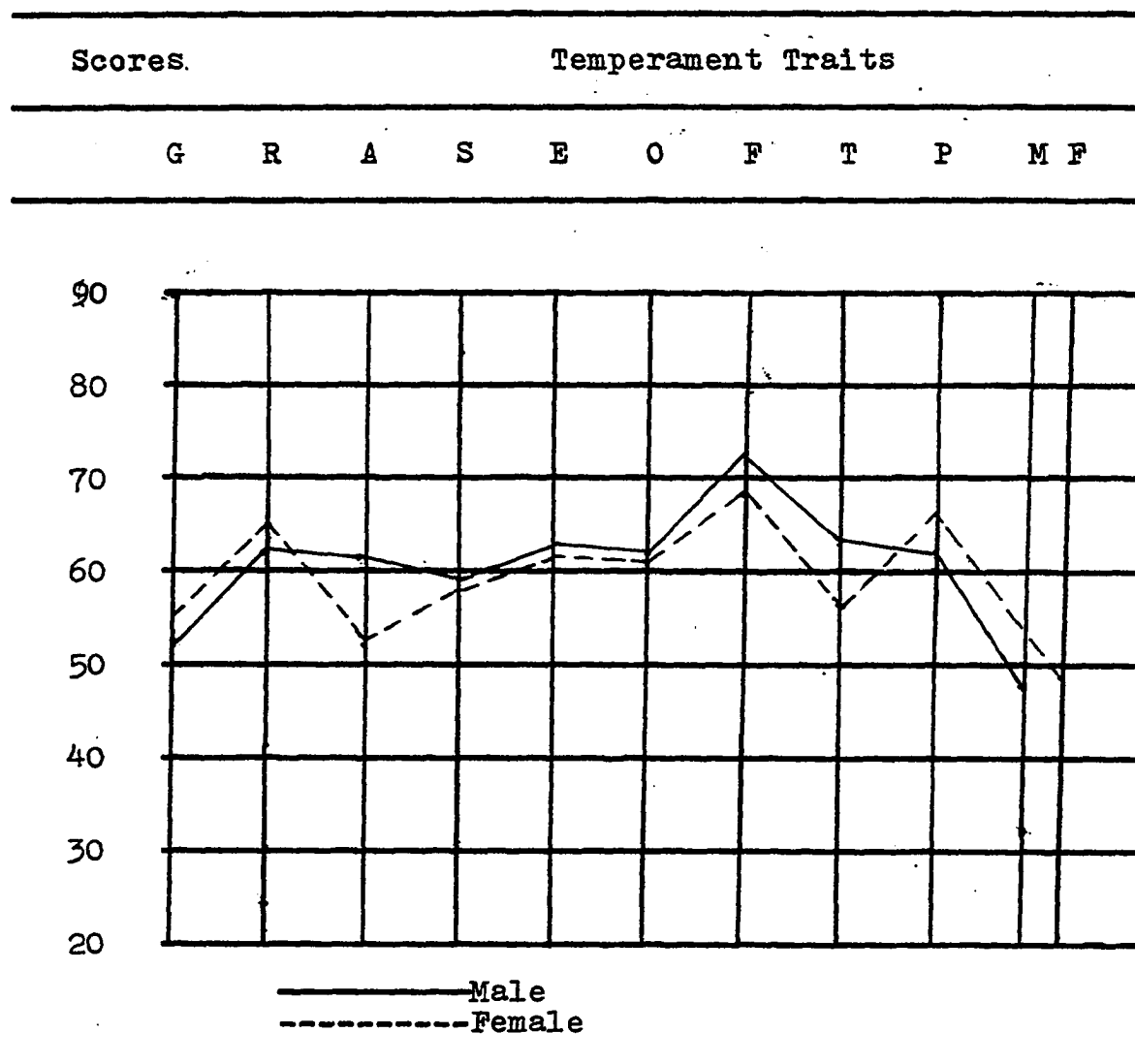


FIGURE 6

THE MEANS OF SCORES FOR SCST MALES AND
 FEMALES ON THE GZTS
 (N-221) (N-13)

As the mean strength of the various traits of temperament for men of SCST are observed in the relationship to each other, the trait of friendliness (F) is highest in the group of traits. There are no extreme elevations indicated in the figure and the friendliness trait stands in fairly close proximity to other traits in the pattern of temperament. The F trait at a moderate elevation probably means that the group has strong desires to please others and to be liked, as well as a healthy ability to handle their frustrations.

Personal Relations (P) and Thoughtfulness (T) stand in complementary relation to F and support an interpretation that the male seminarian of SCST is characterized by his ability to get along with people by tactful relations. This triad of traits (F, P, T) describing the quality of the male groups interaction with people is modified by a tetrad (E, R, O, A) of traits that describe the manner in which personal relations are maintained.

The trait of Emotional Stability (E) is next in the spectrum of temperament for the male and indicates a balance of needs and the way those needs are met. The score of this trait and its position among other traits indicates general optimism and cheerfulness but it is much higher than the level of general activity (G) so this may mean that the needs of people in this group are more nearly met by means of pleasant persuasiveness than by the force of arduous

effort. The separation of the E and G are not great enough to support any interpretation of deviousness but it is obvious that the friendly traits exceed the energy traits. The traits of Restraint (R), Objectivity (O), and Ascendancy (A), are closely related and may be interpreted to indicate a quality or mode of operations that is necessary for the avoidance of inner conflict among a group who will be working with other people.

The traits of Sociability (S) and General Activity (G) are eighth, and ninth in their relative position to other temperament traits. Sociability refers to the ability to participate in social activity with ease and enjoy the company of others. While the group mean indicates a healthy degree of the trait of Sociability (S) it does not stand at a corresponding level with the trait of Friendliness (F). If friendliness is only a means to an end and is not supported by genuine sociability then it may be expected that many individuals will exhibit considerable inner conflict and inhibition. The level of General Activity (G) of SCST male students is near the norm level of activity for the general population but in the profile of this group it would seem that members of this group are more friendly, thoughtful, restrained, and objective than they are active and aggressive. The actual accomplishments of the SCST group may fall short of the goals they have thoughtfully conceived and planned, because they depend more on their

friendliness than on their own sustained effort to achieve them. Or, it may be that the SCST seminarian finds it easier to enter into an activity involving sociability for the sake of sociability than they do to accomplish definite objectives at the sacrifice of some sociability.

The trait of Masculinity (M), is lowest and is the only trait that is lower than the norm average. It is not much lower, but it is the lowest of the temperament traits and seems to indicate that members of this group may find it easier to be understood and accepted by women than by men. The qualities that may be indicated at a moderate level of femininity are probably necessary attributes for ministers who are engaging in activities of social concern where goals of future accomplishment must be modified by maternal concern for persons who are emotionally involved in the present time.

Since the Masculinity (M), factor for SCST was low on the MMPI-Mf scale it might have been expected that the masculinity factor would be low on the GZTS M-scale. This prediction was true and it may be expected that there will be a correspondingly low score on the M factor in the SVIB test. However, the correspondingly low scores of the masculinity-femininity factor of personality on the various tests does not mean that they are measuring the same thing. Guilford points out that the GZTS test is weighted more heavily in terms of interests and certain emotional

qualities.⁶ The SVIB test is presumably weighted in the direction of the degree of masculinity that is related to vocational interests. The MMPI is presumably weighted more by sexual differences in pathological symptoms. No matter what aspect of the trait of masculinity is measured by these tests the mean score of SCST students indicate that they are low on each of them.

The female population of SCST that was tested on the GZTS is small and no attempt will be made to compare the temperament traits indicated by the norm scores in Table XXIV, page 148, and Figure 6, page 149, with the norm scores obtained by the male population and shown in the same table and figure. Actually, the similarity of traits of males and females are greater than the differences, but changes in elevation and the relative position of traits on the profile requires a different interpretation of the profile.

The trait of Personal Relations (P), is highest in the profile of SCST women. This trait indicates an ability to get along with other people. This sense of diplomacy in a group may be a quality of tolerance and understanding of the human weakness of people or it may be a cultivated means whereby people meet their own emotional needs.

⁶Guilford, "Fourteen Dimensions . . .", p. 1-26.

The trait of Personal Relations among SCST women is supported by a high level of Friendliness (F). The traits of Personal Relations (P), Friendliness (F), and Social Interest (S), seem to be integrated by a factor of Emotional Stability (E), indicating optimism and freedom from inner conflict. The quality of extroversion that seems to be inferred by the presence of these traits among SCST women is controlled by the added traits of Restraint (R), and Objectivity (O). The degree of Friendliness (F), Emotional Stability (E), Restraint (R), and Objectivity (O) are near the same level and may indicate a pattern of temperament.

The next strata of temperament traits is at the level of General Activity (G), Thoughtfulness (T), and Ascendancy (A). The lower degree of these traits among SCST women whose qualities seem to find their zenith in the ability to get along with people may indicate that persons in this group are able to meet their emotional needs through friendliness and sociability, and are retarded by deficiencies involving energy, tact, reflection and planning.

E. Intercorrelation of Scores on the Guilford-Zimmerman Temperament Survey

The validity of the scores of the GZTS is assured by the manner in which the test was constructed. The test was built through a long process of item analysis so each trait is well defined and an intercorrelation of scores renders a

low correlation coefficient. This indicates a low overlap of the traits being measured and provides a good categorization of traits for describing the temperament of an individual.

The scores obtained by the SCST population were intercorrelated by use of the Pearson product-moment correlation formula. These intercorrelation scores will be placed on a table for comparison with a similar table on intercorrelations of a group by Guilford.⁷ The intercorrelations of scores on the GZTS for the SCST population and the Guilford group are seen in Table XXV, page 156.

It seems that the intercorrelation coefficient of both groups are low, indicating the test is measuring discrete qualities. The traits between Sociability and Ascendancy, and between Emotional Stability and Objectivity are rather high, but these scales deal with similar traits and are likely to show higher intercorrelation.

F. The Southern California School of Theology Male Seminary Student Compared with Students in Another Seminary

Guilford built his system of temperament measurement on the premise that by the varied degrees of strength expressed by ten traits of temperament an infinite number of

⁷ Guilford, The Guilford-Zimmerman . . ., p. 7.

TABLE XXV
INTERCORRELATION OF SCORES ON THE GZTS FOR
THE SCST POPULATION* AND
THE GUILFORD GROUP**

	G	R	A	S	E	O	F	T	P	M
Gen. Activity	G	-16	+34	+35	+34	+14	-17	+24	-03	+30
Restraint	R	-16		-08	-21	+08	+05	+25	+42	+14
Ascendancy	A	+38	-04		+61	+35	+41	-25	-19	-04
Sociability	S	+40	-19	+60		+23	+36	-06	+04	+18
Emo. Stability	E	+15	+02	+32	+25		+69	37	-13	+34
Objectivity	O	+20	+07	+30	+30	+63		+34	-04	+43
Friendliness	F	+01	+16	-04	+09	+37	+46		-03	+50
Thoughtfulness	T	+03	+34	+11	+05	-27	-16	-14		+22
Per. Relations	P	+08	-08	+16	+28	+35	+47	+37	-12	
Masculinity	M	+13	+00	+07	+10	+34	+36	+25	-07	+23

*The lower division of the chart are Pearson product-moment correlation coefficients based on 221 SCST men

**

All correlations in the upper division of this table except those involving trait T are tetrachoric coefficients, based upon the scores of 266 lower-division college men. Those involving T are Pearson product-moment coefficients, based upon the scores of 100 men who varied as to age (17 to 50) and educational level.⁸

⁸Guilford, The Guilford-Zimmerman . . ., p. 7.

unique individuals might be observed. If this is true of the individual, it would also be true of seminaries even though they may be comparable institutions. However, in spite of the differences that would mark the individuality of the seminaries it was hoped that some comparable profile pattern between two similar theological seminaries might be observed that would indicate a temperament that characterizes students who aspire to the ministry.

An effort was made to discover another seminary using the GZTS as a part of their battery of tests in order to observe the qualities of their temperament profile that would be comparable with the norms established for the GZTS in SCST.

While several seminaries are using the GZTS, only one seminary had data that might be regarded as norms for the test. E. E. Spiers was engaged in research at Christian Theological Seminary,⁹ and had compiled the GZTS test records of the seminary classes entering the seminary in 1960, 1961, and 1962. While the scores and standard deviations of this sample had not been validated as seminary norms, the sample of eighty-nine students in that seminary is large enough to provide a reasonable comparison with the heterogeneous total population of SCST.

⁹Spiers.

The Christian Theological Seminary is located in Indianapolis, Indiana, adjacent to Butler University. The seminary is supported by the Christian Churches (Disciples of Christ) and is recognized by the Methodist Church for the training of Methodist seminary students. Other information such as the average age, marital status, college and religious background was not available. The mean score and standard deviations on the GZTS for male SCST students and the sample of Christian Theological Seminary students will be shown in Table XXVI, page 159.

While the GZTS norms of the SCST and the Christian Theological Seminary students in Table XXVI appear to be similar, the relative strength of the various traits may be more apparent when seen in more graphic form. The mean scores on the GZTS for SCST males and the sample of Christian Theological Seminary students will be shown in Figure 7. page 160.

An interpretation of the profile for male students of SCST on the GZTS scales of temperament traits began on page 147 of this chapter. The temperament profile of the Christian Theological Seminary sample will be discussed in terms of both the similarities and differences between the SCST population with the intent of observing the common traits of seminary students that may have some characterization as a ministerial temperament.

The peak of both profiles is Friendliness (F), and

TABLE XXVI

THE MEAN SCORES AND STANDARD DEVIATIONS ON
THE GZTS FOR THE SCST MALE POPULATION
AND A SAMPLE OF CHRISTIAN THEO-
LOGICAL SEMINARY STUDENTS

Temper- ament Trait	<u>Means</u>		<u>Standard Deviations</u>	
	SCST	Christian Theological Seminary	SCST	Christian Theological Seminary
G	18.25	17.84	5.05	5.70
R	19.59	20.49	4.04	3.81
A	19.08	18.62	4.92	4.75
S	22.63	21.87	5.17	5.11
E	22.17	19.39	5.07	5.37
O	21.91	20.24	4.08	4.99
F	20.14	18.73	4.45	5.49
T	21.45	22.12	3.94	3.46
P	22.45	20.93	4.74	4.92
M	19.52	18.93	3.52	3.42
Number	221	89	221	89

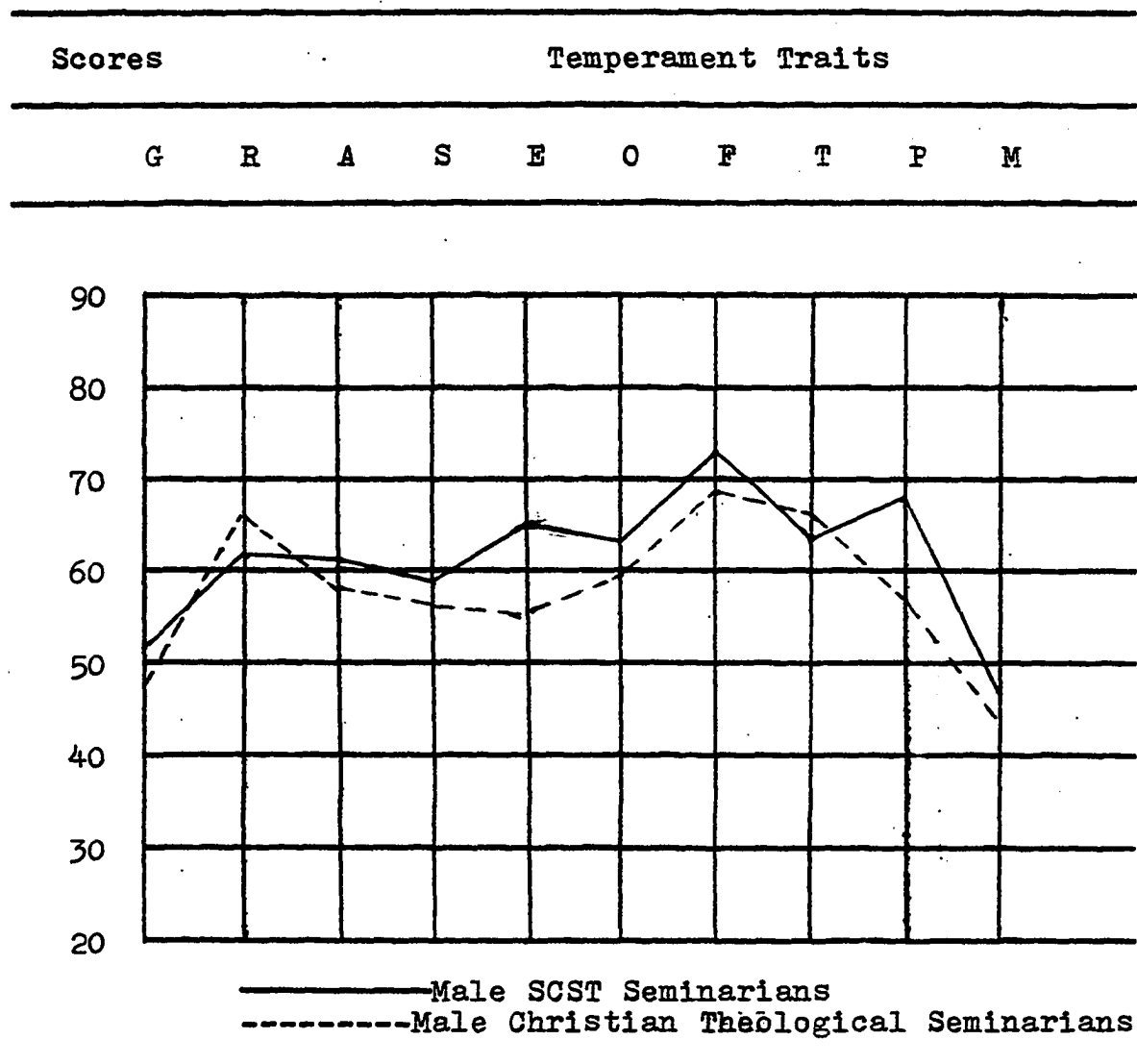


FIGURE 7

THE MEAN SCORES FOR SCST MALES AND A SAMPLE OF
 CHRISTIAN THEOLOGICAL SEMINARY
 MALES ON THE GZTS
 (N-221) (N-89)

beyond that point the nature of that friendliness is qualified by a mixture of traits that makes two different kinds of friendliness. The high point of Friendliness among the Christian Theological students is supported by Thoughtfulness (T) and Restraint (R). The Christian Theological Seminary students may be slow in developing friendships since they are probably serious students who are reflective in their seminary pursuits. However, they may be more tactful and subtle in social interaction and would be capable of more enduring friendships since Personal Relations (P) has a much lower place in their constellation of qualifying traits than is the case with SCST students. But Personal Relations is still the next trait in the compound of Christian Theological Seminary temperament so the difference between the students of the two seminaries is in degree and not in kind of temperament.

Other temperament traits at the intermediate level are the traits of Objectivity (O), Ascendancy (A), Sociability (S), and Emotional Stability (E). The relation of Ascendancy (A), and Objectivity (O) at the same level of strength may show considerable sensitiveness among the Christian Theological seminarians about other people. Although Christian Theological seminarians have the capacity to sympathize with other people and the ability to cultivate good personal relations with people they also have a higher level of Restraint (R) and a lower level of General

Activity (G) that may prevent them from expressing these feelings and be the source of inner conflict.

Sociability (S) and Emotional Stability (E) are not high among Christian Theological seminarians. A lower degree of the trait of Sociability (S) would be expected among a group of persons who are friendly and have a capacity for personal relations, especially when these persons are also restrained and are not aggressive in their activity. Emotional Stability (E) is much lower among Christian Theological Seminary students than among SCST seminarians. The degree of emotional stability in relation to the strength of other temperament traits among Christian Theological Seminarians may indicate a measure of inner conflict because of strong outgoing tendencies and an inability to express them.

G. The Temperament of the Seminarian

General Activity (G) and Masculinity (M) are at the bottom of the profile of temperament traits for students of both seminaries. In these traits the ministerial students seem to tend toward meeting their needs and achieving their objectives more by the pressure of friendliness and the weight of group effort than by strong and enduring effort on their own part. The low level of Masculinity (M) has been recognized as a trait that is common among persons engaged in social interests.

The comparison of the profiles of a population of seminary students and a sample of other seminary students does not warrant any generalization to statements about the ministry, especially when the norms of both groups are inadequately validated. There are some similarities between the two seminary groups that need to be noted. If we may use the MMPI device of coding the profile in the order of the relative strength of the different traits we would find this kind of code:

SCST code - F-PTEORA-SG /M

CTS code - F-TR -PAOSEG/M

The high point in both profile codes is Friendliness (F), and the low point is General Activity (G) and Masculinity (M). The high point of friendliness is not inappropriately higher than the supporting traits. The traits of general activity and masculinity are within the normal range and close to the level of the normative group. The temperament traits in the mid-range of the profiles follow the same contours although the varying degrees of elevation cause a different combination of traits. The only exception is some difference in the degree of Personal Relations (P) and Emotional Stability (E). The dominant modality of the seminarian is friendliness and there is a much lower degree of general output of energy and of masculine behavior. The quality of over-all temperament seems to gain

its greatest character from a high regard for people, a desire to interact with them, and a conflicting restraint that is capable of causing some neurotic tendencies in the event of social conflicts. The scores of all the temperament traits that characterize this study of seminarians are all above the normative level except the trait of masculinity which refers more to occupational interests than to sexual feelings.

CHAPTER VIII

THE STRONG VOCATIONAL INTEREST BLANK AND ITS NORMS

A. The Origin of Interest Studies

Psychologists have been measuring interests for at least forty-five years now, for it was in 1918, that Yoakum's seminar at Carnegie Institute of Technology began its work in this field.¹ Thirty-two years ago, in 1931, Douglas Fryer found enough material for a five hundred page treatise on interests.² This treatise was a major contribution to the theory of personality and motivation and was to be followed by many other developments, both in theory and in practice. Strong presented his major work in 1943, after years of research.³ Strong published his first edition of the interest inventory blank in 1927, after preliminary studies had shown the validity of his approach. The revised blank that is currently in use was brought out in 1938, based on the research of previous years.⁴ This blank was the first interest inventory, and yet is is only

¹Bingham, p. 72. ²Fryer, P. 16. ³Strong.

⁴Super, Appraising Vocational Fitness, p. 418.

one among fifteen interest tests listed in the current volume of the Mental Measurement Handbook issued in 1959.⁵

These facts would seem to imply that much has been done in the field of interest theory and measurement. Much activity implies considerable achievement, and yet only two interest inventories have been validated adequately for practical use, and there is no universally accepted theory of interests. Donald Super⁶ regards the Strong Vocational Interest Blank (SVIB) as the only instrument that meets the exacting standards of psychologists at the present time. Other tests have gained acceptance and have received favorable reviews by psychologists, but the SVIB is a part of the battery of tests used in SCST, and will be studied in this chapter. However, the theory of interests and their relation to other aspects of personality require some study preceding any consideration of the SVIB.

2. Theoretical Consideration of Interests

There are no clear theoretical formulations regarding the origin of vocational interests. This inadequacy in theory probably stems from a preoccupation with atomistic and analytic approaches. The emphasis of empirical efforts has been to isolate the individual's occupational life from his total life and life style. The relationship of

⁵Buros, 5th, p.1290. ⁶Super. "The Measurement. . ."

interest to other factors in our study, such as personality, adjustment, temperament, aptitude, intelligence and any criteria of success that may be presented in the study of the minister, will be clearer if we deal with some of the theory that has entered into the development of interests.

In discussing the developments in the theory of interests, Fryer separates interests as an entity from abilities, emotions, and motivation.⁷ He makes a distinction between subjective and objective interests. In his scheme, subjective interests are either likes--experiences accompanied by feelings of pleasantness, or dislikes--statements of aversions accompanied by unpleasant feelings. He defines objective interests as reactions--behavior that can be observed by others in a specific situation. He views both subjective and objective interests as "acceptance--rejection activity. . . These acceptances and rejections are observed in the behavior of the individual and in his estimate of pleasure and displeasure when stimulated by an interest situation."⁸

In the measurement of interests, Fryer makes two distinctions. First, subjective interests which are measured by tapping as many likes, dislikes, and indifferences

⁷Fryer, p. 16.

⁸Ibid, pp. 348-50.

as possible to yield a score similar to those of the representatives of defined vocational groups. This technique became the essential method used in the SVIB. Second, objective interests which are to be measured by information or free-association tests that would gather responses which might be classified "according to their significance as specialized group interests."⁹

In the study of objective interests, Fryer is caught up with some of the mechanistic aspects of the stimulus-response learning theory, and motivation is identified with the extrinsic incentives associated with the effort of industry in stimulating more productivity. As he considers the subjective measurement of interests, Fryer says that "while motivation would seem to influence these measures, its influence would seem to be the same as that upon measures of ability. It is extraneous to the measurement. Motivation is distinguished from interest as a separate aspect of mental life."¹⁰

It is plain that Fryer's theory of interest is based upon the aspect of acceptance and rejection of stimulation. He fits into the pattern of research that was current in that decade, but he was ahead of his time in looking for the element that he felt was not measured. While he separated motivation and interest as distinct kinds of

⁹ Fryer, p. 346

¹⁰ Ibid., p. 348.

psychological activity, he recognized what he called the driving energy of stimulation, as well as the acceptance or rejection aspect of the reaction.

He displayed his social concern as he evaluated the prevailing attitude of industry toward work. Work was seen as inherently unpleasant, and in view of its necessity, certain extrinsic incentives were offered, such as shorter hours and higher pay, so that human satisfaction might be secured through pleasant interests outside a vocation.

Fryer could see that, while the typical worker might find certain things about a job unpleasant, there were other factors surrounding the job--personnel relations, prestige, recognition of accomplishment, and such work-feelings that are a part of the total situation. He claimed that "the satisfaction of the worker is the total satisfaction of his life,"¹¹ and that the unpleasant feeling accompanying any task is due to thwarted ambition and the lack of the possibilities of becoming more and more a person through his vocation.

The space given to Fryer's research is not justified because his theories have been established, but because he touched on nearly all the problems with which interest theory must sooner or later deal. His ideas on job satisfaction were only the beginnings of a new era in enlarging

¹¹Fryer, p. 454.

the dimensions of vocational study.

Chronologically Strong is the next major contributor in the development of interests. After much research, his book and his interest blank appeared, but he did not take a specific position in regard to the origin and development on interests. He is more concerned with the accumulation of data, but he does explain some of his assumptions about these problems.

Strong says:

Human behavior involves, first, wants or desires which are to be satisfied by reaching some goal and second, means to be used in reaching the goal. The former has reference to what man wants to do, his drives, aspirations, day dreams, ambitions; his pleasures and satisfactions; the causes of his behavior. The latter has reference to how he accomplishes these desires, his discovery of appropriate means to that end. The two phases of behavior do not have a common denominator' the former concerns motivation, the latter efficiency."¹²

He later says:

Learning and motivation cannot be reduced to one set of terms, except in the sense that achievement is the resultant of both. The former has reference to effort and efficiency, the latter to desires, interests, satisfaction."¹³

His learning theory is an associative theory, based on interests emerging from the recognition of abilities when they are put to effective use. Interests are placed squarely in the domain of motivational forces, and he sees some hope that such group factors as interests and ability

¹²Strong, p. 4. ¹³Ibid., p. 6.

attitudes and personality factors will emerge with a demonstrated relation to occupational adjustment. Strong does not solve all the problems of theory before presenting his inventory blank; however, his instrument has contributed to the search for answers to many questions that were asked in the days of Fryer's study.

The next person to enlarge on the problem of choice of interests was H. D. Carter, who produced a theoretical formulation that goes far beyond learning theory. Writing on the development of vocational attitudes, he said:

In the development of vocational attitudes the young man or woman is attempting a practical adjustment to environmental conditions. In this adjustment the individual is limited by certain external realities such as are shown by study of home environment, needs, personalities of parents and friends, and cultural resources available to the individual. The adjustment is also limited by another class of realities outside of the person's control, consisting of the individual's own native equipment, physical traits, energy, mental ability, and so on. The adjustment is further partially dependent upon subjective factors which may fail to agree with realities as seen by unbiased observers.

These subjective factors are better understood when one considers that the individual derives satisfaction from the identification of himself with some respected group; by this method he seizes some sort of status. This identification leads to an interest in restricted activities and experiences; to the extent that this is true, the person learns about the vocation and the vocational group. As long as no great discrepancies are felt between ability and the requirements of the vocation, the individual persists with the identification.

In this process of trying to adjust to a complex culture, the individual finds experiences which offer some basis for the integration of personality. The pattern of vocational interests which gradually forms becomes closely identified with the self. The pattern is partly subjective and involves organization of

activities around judgements of the value of things. It leads to persistence in selected lines of activity even in the face of obstacles, when those activities are seen in relation to the expanded ego; it leads to avoidance of other activities as unimportant. It tends to put an orderly pattern into relevant aspects of living. It gives the individual major drives, together with bases for long-time planning. It provides individualized backgrounds for decisions of many kinds, insofar as the individual is able to assimilate a significant pattern of values.

The vocational interest patterns of young persons tend in the main to become increasingly practical In the beginning, many of the interest patterns found among young people are very unsatisfactory solutions to their problems of adjustment. Attempts are made to make the solutions work, but frequently this is impossible. After disruption of the pattern, a new pattern is developed, and it may be a better one; if so it may last indefinitely, otherwise the process is repeated again. For a given individual, the pattern of interests may become more satisfying, or less satisfying as growth continues, or it may remain on the same level of satisfyingness. Persistence in a bad pattern leads to increasing disappointment and frustration; a series of bad patterns may lead to complete breakdown of personality organization, even to the point of a psychosis. An individual's happiness may depend largely upon the fortunate choice of a workable interest pattern, and opportunities for growth toward success in the chosen occupation. For each individual there are probably several workable patterns and many more un-workable patterns which are prevalent in our culture and to which the individual is exposed. The pattern of interests is in the nature of a set of values which can find expression in one family of occupations but not in other families of occupations.

The development of vocational interests involves interaction between growth processes, some of which are educationally controlled and some of which are biologically controlled. . . . Growth in this field is a part of the general maturation, of developing individuality. The best adjustment requires the assimilation of realistic value systems to be found in our culture. Such assimilation implies learning, choice, and development of character and personality. . . . We have before us the task of finding out which educational and

maturational factors are most significant."¹⁴

Carter has taken into account the social forces that impinge on the adolescent, and he includes the strivings that seem necessary to achieve an acceptable self-concept and adequate status satisfactions in this culture. He also touches on the individual's value systems as factors which enter into vocational choices.

The next attempt at theoretical formulation is by J. G. Darley, 1941.¹⁵ He proposed that occupational interest types grow out of the development of the individual's personality. After more research, he restated his ideas by adding the theory that aptitudes determine the level at which an interest may develop and seek outlets, but he considered values, needs, and motivations the determinants of occupational interests and choice. Occupational status is viewed as the social role in which the person seeks self-actualization.¹⁶

The next theoretical formulation was proposed by Bordin,¹⁷ in 1943. He said that the vocational goals and ~~aspirations~~ of an individual forms one of the mainsprings of his action. He observed that a person answering a SVIB

¹⁴Carter, pp. 185-191.

¹⁵Darley, Clinical Aspects . . ., p. 65.

¹⁶Darley, Vocational Interest . . ., pp. 147, 190-2.

¹⁷Bordin, pp. 49-65.

is expressing his acceptance of a particular concept of himself in terms of occupational stereotypes. It follows that the student who sees himself as a minister answers as he believes a minister would answer. This concept is prominent in present research on clergymen. He says:

Two corollary statements are required: 1. the degree of clarity will vary positively with the degree of acceptance of the occupational stereotype as self-descriptive. 2. the degree of clarity of an interest type will vary positively with the degree of knowledge of the true occupational stereotype.¹⁸

He bases the "degree of clarity" on the primary, secondary, or tertiary pattern of interests in the groups on the SVIB and the "degree of knowledge" refers to the assumption that the pattern of likes and dislikes of the successful men in the standardizing groups of the Strong test is a true picture of the likes and dislikes of the occupational group.

Bordin's definition of personality includes what he calls the long and short term "goal directed strivings of the individual." In this definition, his view of interests holds that patterns of likes and dislikes are expressions of personality. But because these strivings are in flux, and because personality is reflected in self-concepts, the patterns of likes and dislikes are subject to change as self-concepts change. Therefore, as the individual becomes older he is more likely to become occupationally established and less likely to face conditions that would require a

¹⁸Bordin, pp. 49-65.

change in either occupation or in self-concept, as compared with young people who are involved in finding their identity. It follows that a personality test and an interest test both require an individual to give his "picture of himself," and it may be assumed that "where the stereotype of an occupation involves a personality trait covered by a personality test, there will be a relationship between the individual response in the two testing situations."¹⁹

Bordin's hypotheses have called forth considerable research, and are at the center of situations where personality factors and vocational interests are being considered, such as in the instance of admission to graduate school or in the prediction of success in a vocation such as the ministry.

Contemporary with these psychological theories that have been associated largely with normative research has been the more personalistic contributions of such men as G. W. Allport,²⁰ and others who have extended the boundaries of research by formulations that have come to be called "wholistic" psychology.

Allport wrote his first major book on Personality in 1937, and his thesis has not changed in his latest book

¹⁹Bordin, p. 65.

²⁰Allport, Pattern and Growth . . ., pp. 226-27.

(1961) as he explains the functional autonomy of the individual. He says:

We turn to one general law of motivation that allows for the concrete uniqueness of personal motives, and observes all other criteria for an adequate theory of motivation. It is by no means the only valid principle pertinent to the development of human motives; nor does it explain all motivation. It is, however, our attempt to escape the limitations of uniform, rigid, abstract, backward-looking theories, and to recognize the spontaneous, changing, forward-looking, concrete character that much adult motivation surely has.

Functional autonomy regards adult motives as varied, and as self-sustaining, contemporary systems, growing out of antecedent systems, but functionally independent of them. Just as a child gradually outgrows dependence on his parents, so it is with many motives. . . .As the individual matures, the bond with the past is broken. The tie is historical, not functional

Such a theory is obviously opposed to all conceptions on "unchanging energies." It declines to view the energies of adults as infantile or archaic in nature. Motivation is always contemporary.²¹

As an example, Allport refers to boys who choose occupations that follow in their fathers' footsteps. This "father identification" may have an influence in causing a boy to enter an occupation, but he outgrows this kind of motivation in later years as he becomes more mature. It is conceivable that a person may have some unresolved oedipal attachments that would be reflected in compulsive, rigid, neurotic behavior. The chances, however, are that his occupational interest will outgrow its roots in "father identification," and his vocation will be his style of life and

²¹ Allport, Pattern and Growth . . ., p.227.

a part of his personality. The original seed has been discarded. There is historical continuity but no longer any functional continuity.

J. G. Darley and Theda Hagenah ²² conclude their discussion of interest theory with the remark that a single all-inclusive theory of the origin and development of vocational interests is not easily attained, for psychology has not yet achieved a single universally accepted theory of personality development or motivation. With that understanding we will continue the study of the SVIB and its applications to SCST.

C. The Strong Vocational Interest Blank and Its Uses

The SVIB has been described in Chapter III, pages 31 through 35, so we will consider its uses now as a part of the battery of tests used in SCST. The test was devised as an aid for counseling young men and women in making their occupational choices and it serves a useful purpose in the hands of a competent student counselor. It is not a test of specific or general abilities, but a measure of the basic interests of an individual in an attempt to help him in the choice of a vocation where he can apply his abilities and be identified with a vocational group of persons with similar interests.

²²Darley, Vocational Interest. . ., p. 193.

The SVIB is valuable in educational guidance. If the student is able to make a reasonable choice of an occupational objective on the basis of some knowledge of the area of interests where he may reasonably succeed, it is not difficult to advise him about the course of study that is required. Such information may assist the student to make more specific vocational choices, but an interest test will help him into an area where he can make adjustments in relation to his abilities as he discovers them in the course of training. It is as important for a person to know what he should not do as to know what he should do.

The SVIB is useful in the guidance of those who seek admission to the seminary. The measures of personality, aptitude, and intelligence are other factors that are essential in assessing the students' ability to do successful academic work. This test of interests should provide a practical indication of whether or not the beginning student will enjoy his work as a student and later as a clergyman. The strength of the student's interests may be the kind of motivation that will raise the level of his achievement from mediocrity to the full level of the capacity he brings with him to his vocation.

D. The Strong Vocational Interest Blank and Its Norms
in Southern California School of Theology

The score that is given to a student taking the SVIB

does not indicate a quantity of interest, but the likelihood that the person has or does not have the interests of men successfully engaged in making a living in the given occupation. The scores used in scoring the tests taken by seminary students, as a part of this study, are standard scores. These may be placed on the report blank and translated into the letter ratings of A, B+, B, B-, C+ and C. Students with an A rating in any occupational scale are placed among the top sixty-nine percent of successful workers in a criterion group. Students with a C rating are comparable to the bottom two per cent of workers in the criterion group and are quite unlike the majority of persons in that group in their interests. For the purpose of placing the scores of students on the various scales in related groups, these scales are placed under three headings of, primary, secondary, and tertiary interests. All A ratings are called primary interests, all B+ ratings are called secondary, and all B ratings tertiary.

The SVIB has been used with students in SCST since 1958, when it replaced the Kuder preference Record. The population upon which these norms are based is described in Chapter V (pages 59 to 79), and consists of 116 males and thirteen females. The population was scored on forty-seven occupation scales, and the Occupation Level, Masculinity-Femininity, and Specialization Level Interest Factors. The mean score and standard deviation of all primary, secondary,

and tertiary interest scales on the SVIB for SCST students are given in Table XXVII, pages 181 and 182.

The student minister has more interests like those of vocational counselors, public administrators, music teachers, or social science teachers than he has like those of persons who are successfully engaged in the ministry. This pattern of interests should be expected in a group beginning professional training in an occupation that has several related interests. The choice of the ministry as an occupation by this population of seminary students is reinforced by high interest scores on all other occupational scales of Welfare Group V. The tertiary interests are only marginal interests in the everyday life, but it is easy to see how the score of a student who is anxious to indicate the broadness of his interests can overlap with the scores of psychologists, osteopaths, physicians, lawyers, and even advertising men. These occupations are in the closely related categories of creative scientific, business contact, and verbal occupations. This pattern of interests will be checked in the next section by correlating the scores on the various occupations.

F. Differentiation of Interests by Intercorrelation
Between Interest Scores

Strong demonstrated the differentiation of occupations in terms of correlation by correlating a group on the

TABLE XXVII

THE MEAN SCORE AND STANDARD DEVIATIONS OF
PRIMARY, SECONDARY AND TERTIARY INTER-
ESTS ON THE SVIB FOR SCST SEMINARIANS
(N-116)

Interest Scales	Group	Mean	Standard Deviation
<u>Primary Interests</u>			
Vocational Counselor	V	48.68	9.09
Public Administrator	V	48.04	8.16
Music Teacher	VI	47.02	10.54
Social Science Teacher	V	45.16	10.70
<u>Secondary Interests</u>			
Minister	V	44.09	10.33
Psychiatrist	I	43.52	9.42
Musician (Performer)	VI	43.21	9.26
YMCA Physical Director	V	42.49	10.17
Credit Manager	Spec.	42.18	9.79
Personnel Manager	V	41.59	9.93
YMCA Secretary	V	41.31	10.84
City School Superintendent	V	41.21	9.26
<u>Tertiary Interests</u>			
Psychologist	I	39.06	9.34
Osteopath	I	38.41	10.23
Physician	II	38.16	10.33

TABLE XXVII (continued)

Interest Scales	Group	Mean	Standard Deviation
<u>Tertiary Interests (continued)</u>			
Life Insurance Salesman	IX	37.26	9.62
Lawyer	X	37.15	8.55
Mathematics Science Teacher	IV	36.80	9.82
Advertising Man	X	36.30	7.11

various scales.²³ Each scale typifies the peculiar interests of an occupation. By scoring a population on the various scales, and correlating the scores, the relationship between these occupational interests may be ascertained.

Strong pointed out that because the responses to any item are limited to like, indifferent, or dislike, when one group responds with "like" a second group differing from the first group must respond with "dislike." This result is a difference in the mean score causing a variation in the correlations between the two groups ranging in degrees of similarity or dissimilarity from +1.00 to -1.00. In other words, the greater the difference in mean scores, the less the overlapping of distributions and the more the correlations between the two scales approaches -1.00. The opposite is true, of course, in that the greater the scores the more the overlapping of distributions, so that the correlations between scales approach +1.00. In this way the interest of one occupation is similar to another, so that they may be grouped together because of the similarity of their pattern of likes and dislikes.

Strong tested 285 senior students at Stanford University, in 1927, on thirty-eight occupation scales and occupational level, masculinity-femininity interest maturity,²⁴

²³Strong, p. 113.

²⁴Ibid., p. 716.

and intelligence. The mean score on each occupation was correlated with all other occupations. The coefficients of correlation suggest immediately that the occupations can be classified into groups on the basis of the interests of men engaged in the occupations according to the intercorrelations. Occupations can be classified into groups on the basis of high correlation coefficients, and can be separated from all other groups by low correlation coefficients. As an example of the grouping of interests, the occupations having the obvious connection of welfare interests in everyday life have correlations from .41 to .87 between each occupation. These occupations were YMCA Secretary, YMCA physical director, personnel manager, city school superintendent, minister and social science teacher. The same observations can be made of other occupations. Common occupational interests are reflected by high correlations, and the differences are shown by low correlations.

This same procedure is used in testing the degree of correlation of interests among the occupational scales on which seminary students of SCST showed high mean scores. Only the occupations in which the population received an A, B+, or B rating were correlated. It was hoped that the correlation coefficients derived from this test of primary, secondary, and tertiary interests would give some clue to the interests of the reference group as seminary students.

The correlations between scores of nineteen interest

scales representing primary, secondary, and tertiary interests of SCST students and the correlations between interests and occupation level, masculinity-femininity, and specialization level scores are shown in Table XXVIII, pages 186 through 189.

The correlation between any two occupations in Table XXVIII is between the scores of 116 SCST students on the two occupational scales. Strictly speaking, the correlation is not between the two occupations, but is between (a) the difference in interests of the first occupation and those of men in general and (b) the differences in interests of the second occupation and those of men in general. The correlation coefficients among the primary interests range from .44 to .86, and the tertiary interests from -.70 to .83.

All of the occupations listed as member of welfare group V, as listed in the Report on Vocational Interests for Men form used for recording SVIB scores, are among the primary and secondary interests. Forty of the 171 coefficients are above .60 and two are below -.60. Four of the seven coefficients of primary interests are above .60, and only seven of the 105 tertiary interests are above .60.

It may be noted that most of the occupations represented in the primary and secondary interest groups may be classified together because of their common interests and their obvious connections in everyday life. The

TABLE XXVIII

INTERCORRELATIONS BETWEEN THE SCORES OF NINETEEN
INTEREST SCALES REPRESENTING PRIMARY, SEC-
ONDARY INTERESTS, AND THE OL, MF, AND
SL SCALES IN SCST ON THE SVIB FOR
SCST SEMINARIANS (N-116)

Interest Scales	1	2	3	4	5	6	7	8
Voc. Counslr.								
Pub. Adminstr.	.70							
Music Tchr.	.70	.44						
Soc. Sci. Tchr.	.86	.50	.66					
Minister	.64	.47	.74	.60				
Psychiatrst.	.42	.63	.49	.15	.55			
Musicn.(perf)	.26	.18	.66	.22	.57	.65		
YMCA Phys. Dir.	.70	.58	.67	.62	.70	.45	.37	
Credit Mgr.	.69	.57	.45	.68	.39	.19	.11	.54
Pers. Mgr.	.70	.80	.51	.60	.54	.49	.15	.57
YMCA Sectry.	.86	.55	.72	.84	.76	.25	.26	.77
City Sch. Supt.	.73	.50	.63	.76	.64	.28	.23	.43
Psycholgst.	.23	.44	.35	-.48	.29	.83	.64	.12
Osteopath	.08	.32	.18	-.08	.37	.65	.39	.47
Physician	.03	.30	.28	-.18	.30	.81	.66	.29
Life Ins. Slsmn.	.15	-.16	.00	.28	-.18	.30	-.34	.01
Lawyer	-.19	-.14	-.14	-.07	-.09	.05	-.02	-.33
Math. Sci. Tchr.	.47	.49	.42	.32	.38	.45	.38	.55
Advertizng. Man	-.10	-.25	.06	.03	-.06	-.04	.11	-.29

TABLE XXVIII (continued)

Interest Scales (continued)

9	10	11	12	13	14	15	16	17	18	19
---	----	----	----	----	----	----	----	----	----	----

.66										
.68	.70									
.43	.56	.76								
.01	.28	-.01	.25							
.00	.17	.08	-.18	.30						
.13	.06	-.09	-.01	.76	.69					
.08	.07	.16	.10	-.48	-.13	-.54				
-.38	-.19	-.32	.11	.17	-.08	.02	.46			
.49	.41	.44	.27	.39	.26	.44	-.63	-.64		
-.25	-.11	-.16	.03	.05	-.15	-.16	.58	.67	-.70	

TABLE XXVIII (continued)

Interest Scales (continued)											
	1	2	3	4	5	6	7	8	9	10	11
OL-	.41	-.27	-.40	-.41	-.30	-.13	-.30	-.54	-.48	-.24	-.46
MF-	.17	.12	-.31	-.30	-.34	-.05	-.34	-.03	.08	.02	-.20
SL	.34	.54	.32	-.18	.32	.63	.32	.10	.26	.53	.22

TABLE XXVIII (continued)

Interest Scales (continued)											
	12	13	14	15	16	17	18	19	OL	MF	SL
OL	-.04	-.03	-.14	-.13	.33	.62	-.66	.47			
MF	-.29	.06	-.02	.14	-.50	-.38	.40	-.59	-.27		
SL	.41	.70	.04	.32	-.20	.13	.28	.05	.09	-.02	

exceptions are the Musician, Music Teacher, Psychiatrist, and Credit Manager. These occupations are generally listed in other categories, but there is considerable overlap of interest among ministers in the area of mental health, music, and credit management. None of the tertiary interests are directly related to the over-all interests that characterize Group V. These occupational groups are among the peripheral concerns of welfare activity occupations because of some of the overlap of professional interest, but actually some of the interests are far apart.

F. The Non-occupational Scales of the Strong Vocational Inventory Blank

The non-occupational scales are measures of general interests. The occupational-level, masculinity-femininity, specialization-level, and interest-maturity scales have been developed to observe the relation of general and specific interests. Only the first three of these scales are used on the SCST tests.

The norms of these scales are:

	Mean	Standard Deviation
Occupational Level	56.19	6.78
Masculinity-Femininity	38.08	9.19
Specialization Level	50.40	6.92

The occupational-level scale contrasts the interests

of unskilled men with those of business and professional men in the upper socio-economic strata. The OL scale indicates whether the general interests of an individual are similar to common workmen (a low score) or to business and professional men (a high score). The average person scores 50 on the OL scale. The mean standard scores of thirty-six occupations, based on the records of 9,904 men tested by Strong, ranges from 48.5 to 64.4.²⁵ A definite progression of scores from the unskilled to the professions may be observed in a score of 48.5 for the carpenter to 64.4 for the lawyer. The mean score for the normative group of ministers in the general population is 58.8, with a standard deviation of 6.1.

Occupations are not so well differentiated by the OL scale as by specific occupational scales, and a person certainly cannot be assigned to a given occupation on the basis of his OL score. The systems by which occupations are classified are so broad that there is considerable overlapping. Some occupations that are characterized by their complexity and require a high level of education for entrance afford less income and prestige than other occupations. Psychologists have assumed that the amount of intelligence is a determiner of success in occupations. There is no data to support this idea, but it is safe to say that

²⁵Strong, p. 324.

persons with appropriate intelligence and OL interest in the range of their occupational interest would be well qualified in an occupation.

Masculinity-femininity of interests means that a person's interests are more like those of men (high scores, on the Men's Blank; low, on the Women's blank) or more like those of women. Since men's interests generally tend to be mechanical and scientific, and women's interests social and artistic, high scores on the M-F scale simply mean what high scores on the Engineer scale mean, and what low scores on the Author-Journalist and Artist scales mean. The average person scores fifty on the M-F scale. The mean standard scores of thirty-six occupations scored on the M-F scale range from 31.8 to 61.5. Feminine interests in men are much more likely to go with interests of men in the upper socio-economic strata, while masculine interests are associated much more with interests of manual activity. This situation is possibly a result of the negative correlation between M-F and OL scores, and may be observed in the negative correlations between the occupational scores and the M-F and OL scores of the various occupations. It may also be observed in the intercorrelations of the primary, secondary, and tertiary interests and their intercorrelation with the M-F and OL scores as are shown in Table XXVIII, pages 186 through 189.

The specialization level scale has not been extensively studied. It was developed to differentiate specialists from generalists in medicine, and has also proved useful in distinguishing the Ph. D. from sub-doctoral chemists. As used in the interest test, it may measure the willingness of college men to concentrate their activities into a narrow specialization, and their capacity to enjoy advanced study. The specialization level of the norm group of SCST seminarians is 50.40. This score is in the upper part of the standard scale, and the correlation between the occupation score of seminarians and the SL score is .32.

G. The Southern California School of Theology Seminary
Student as Compared with Students of Other Theo-
logical Seminaries

In recruiting the ministry it is important to know something about the pattern of interests that lead individuals to consider the ministry as a career. The processes of natural selection and attraction tend to produce professions whose members are distinguishably different from a general population--a difference which may help to explain both the stereotype with which the various professions are viewed by the population and also any unique behavior of members of a profession. It is not enough for a person to say that he has a "call," or for him to want to be a minister, but it is important to know the extent of any

discrepancy between his sense of call and the day-to-day demands that will be laid upon him, and the nature of the motivations that lead him in that direction. Would he have a sense of fulfillment in being a minister or would he be happier in some other vocation that requires some of the same qualities and capacities that make a minister? These questions are important in counseling the individual, and the scope of the problem may be observed when it is apparent that a person may do well in any one of several vocations. It is also possible that he may not do well in any vocation, but it is important for him to move in the direction of the vocation where he can do his best.

The pattern of interests that are exhibited in the population of a seminary may give some clue as to the trends of the ministry. The interests and capacities of individuals may be strengthened and redirected by what goes on in the seminary, but nothing will happen if those who enter the seminary have neither interest nor capacity. In order to enlarge on the vocational pattern of primary, secondary, and tertiary interest presented by the population of SCST as shown in Table XXVII, pages 181 and 182, it is important to compare these norms with those of other seminary populations. For the purpose of comparing the norms derived from administering the SVIB in SCST with other seminaries, it was possible to obtain a sample from only one other seminary. Several other seminaries are associated in the

denominational testing program administered by the Presbyterian church and could not supply test data on their particular seminary population. The norms of Presbyterian seminary students will be discussed later in this chapter. The Pacific School of Religion, Berkeley, California, supplied SVIB data and other information regarding the junior class enrolling in 1962.²⁶

The Pacific School of Religion is near the campus of the University of California in Berkeley. The Seminary beginnings were within the Congregational fellowship, but the college became an interdenominational school in 1912.²⁷ The United Church of Christ, Methodist, and Christian (Disciples) churches have designated the school as an approved seminary, and the student body includes students from many denominations and diverse national and racial backgrounds. The Pacific School of Religion is comparable with the SCST in that both groups are quite heterogeneous. The SCST population is described in Chapter V, pages 59 through 79.

There were twenty-nine students (male, twenty-two and female, seven) who took the SVIB. Additional information may not be important in the study of the data, but it is given to indicate the similarity of the two seminaries. The marital status of the male population of the Pacific School of Religion is shown in Table XXIX, page 196.

²⁷Leslie. ²⁸Pacific School of Religion.

TABLE XXIX

MARITAL STATUS OF MALE POPULATION OF REPRESENTATIVE CLASS OF STUDENTS FROM THE
PACIFIC SCHOOL OF RELIGION
(N-22)

Marital Status	Number of Students	Percentage
Married	15	68.18
Single	7	31.82
Total	22	100.00

The distribution of the ages of the male group from the Pacific School of Religion is shown in Table XXX, page 198. The average age is 23.4 years. The mode is twenty-two years.

The male students came from eighteen different colleges. The distribution of male students from each college is shown in Table XXXI, page 199.

The distribution of denominations represented in this class of seminary students is shown in Table XXXII, page 200.

There is apparently some greater over-all diversity in the SCST population than in the class from Pacific School of Religion that is being studied. This diversity is probably due more to the greater number of students in the SCST population than to other measurable factors. The class enrolling at Pacific School of Religion is younger, a greater percentage of the students are married, and there is the same wide range of college background, but the denominational representation is more homogeneous than in SCST. Whether any of these factors will account for a variation in the pattern of interests is problematical. The mean score, standard deviation of primary, secondary, and tertiary interest scales and the non-occupational scales on the SVIB for the junior class at Pacific School of Religion is shown in Table XXXIII, page 201.

TABLE XXX

AGE DISTRIBUTION OF MALE POPULATION OF REPRESENTATIVE CLASS OF STUDENTS FROM THE
PACIFIC SCHOOL OF RELIGION
(N-22)

Range of Ages	Number of Students	Percentage
35 - 40	1	4.55
30 - 34	0	0.00
25 - 29	4	18.18
20 - 24	17	77.27
Total	22	100.00

TABLE XXXI
DISTRIBUTION OF MALE STUDENTS FROM VARIOUS
COLLEGES IN THE PACIFIC SCHOOL OF
RELIGION
(N-22)

Colleges	Number	Percentage
San Francisco State College	3	13.68
University of Redlands	3	13.68
Union College	2	9.08
Arizona State University	1	4.54
Boston University	1	4.54
Drake University	1	4.54
Golden Gate College	1	4.54
Lycoming College	1	4.54
New England Conservatory	1	4.54
Sacramento State College	1	4.54
Southern Oregon College	1	4.54
Texas Christian University	1	4.54
Texas Technological College	1	4.54
University of Texas	1	4.54
University of New Hampshire	1	4.54
Westminister College	1	4.54
Whittier College	1	4.54
Total	22	100.00

TABLE XXXII
DENOMINATIONS REPRESENTED IN THE PACIFIC
SCHOOL OF RELIGION MALE POPULATION
(N-22)

Denomination	Number	Percentage
Methodist	9	40.80
United Church of Christ	8	36.36
Christian (Disciples of Christ)	3	13.64
Baptist	1	4.60
Non-denominational	1	4.60
Total	22	100.00

TABLE XXXIII

MEAN SCORE AND STANDARD DEVIATIONS OF PRIMARY, SECONDARY, AND TERTIARY INTEREST SCALES AND THE NON-OCCUPATIONAL SCALES ON THE SVIB FOR A CLASS OF PACIFIC SCHOOL OF RELIGION MALE STUDENTS (N-22)

Interest Scales	Group	Mean	Standard Deviation
<u>Primary Interests</u>			
Musician (Performer)	VI	49.00	7.95
<u>Secondary Interests</u>			
Social Science Teacher	V	44.77	9.26
Public Administrator	V	41.41	8.24
Lawyer	X	41.14	11.62
Psychologist	I	40.91	7.54
Minister	V	40.68	11.27
<u>Tertiary Interests</u>			
Advertising Man	X	39.77	9.29
City School Superintendent	V	39.05	7.05
Author-Journalist	X	39.04	10.10
Physician	I	37.91	9.70
YMCA Secretary	V	36.77	11.73
YMCA Physical Director	V	35.09	12.32
Occupational Level		53.95	7.73
Masculinity-Femininity		34.59	9.00
Interest Maturity		52.45	6.99

The only primary interest of this group of students is from Musician Group VI. It is interesting that a group of students should have the interests of musicians at the level of a primary interest. Many ministers are interested in music as a part of the ministry, but this kind of occupational interest would not be expected to be more than a secondary interest. There are three occupational interests of the Welfare (Uplift) Group V among the secondary interests. One secondary interest is of the linguistic Group X and another is of the creative scientific Group I. Out of the six occupational interests included with the ministry in Welfare group V, this seminary population indicated an occupational interest in only five of them. The only welfare occupation that approached the level of being a primary interest is that of Social Science Teacher.

It is difficult to recognize a characteristic pattern of occupational interest in the primary, secondary, and tertiary interests that are shown in Table XXXIII, page 201. It certainly indicates that these students have so many interests in common with several occupational groups that it is hard to differentiate a pattern of related interests. In order to observe the manner in which these interests may be differentiated by correlation, the score of each occupational interest will be correlated. The correlation between the scores of twelve interest scales representing the primary, secondary, and tertiary interests for

students of Pacific School of Religion are shown in Table XXXIV, page 204.

This table of intercorrelations does very little to support the mean standard scores of the seminary students on their primary, secondary, and tertiary interests. It may be observed that there are a few high correlations particularly on the intercorrelations of Group V occupations.

The occupations of Group V will be separated, and each occupational score will be correlated. The correlation between the seven occupational interest scales of Group V will be shown in Table XXXV, page 205.

This intercorrelation of scores on the occupational interests represented in the Welfare Group clearly identifies the relationship of these occupations, and shows the high correlation coefficients of the minister's interests with other related occupations. Seventeen of the twenty coefficients are above .60, and this number is sufficient to indicate an appropriate pattern of interests for this group of seminary students. It is hard to account for the discrepancy with the mean standard scores that showed primary and secondary interests and failed to show a high correlation. The group is small and it is heterogeneous. This fact makes it difficult to differentiate the interests of a group when scored on scales of occupations that have some secondary relation to everyday life. The overlap is probably reflected in the scores, especially when a group is

TABLE XXXIV
 INTERCORRELATION OF PRIMARY, SECONDARY AND
 TERTIARY INTEREST SCORES OF PACIFIC
 SCHOOL OF RELIGION MALE STUDENTS
 (N-22)

Interest Scales	1	2	3	4	5	6	7	8
Musicn. (Perf.)								
Soc. Sci. Tchr.	.02							
Pub. Adminstr.	.00	.42						
Lawyer	-.04	-.04	-.24					
Psycholgst.	.64	-.28	.17	-.38				
Minister	.43	.63	.63	-.29	.18			
Advertis. Man	-.01	.04	-.33	.62	.05	-.18		
City Sch. Supt.	-.08	.62	.64	.16	-.04	.66	.14	
Auth-Journl.	.13	-.28	-.46	.87	.33	-.32	.85	.00
Physician	.55	-.18	.13	-.38	.61	.30	-.58	-.10
YMCA Sectry.	.09	.75	.69	-.50	-.17	.86	-.37	.65
YMCA Phys. Dir.	.23	.55	.62	-.58	-.08	.75	-.54	.42
Interest Scales (continued)		9	10	11				
Physician		-.24						
YMCA Sectry		-.61	.15					
YMCA Phys. Dir.		-.72	.38	.86				

TABLE XXXV

INTERCORRELATION OF SEVEN OCCUPATIONAL INTEREST SCALES OF GROUP V. SCORES ON THE SVIB FOR THE PACIFIC SCHOOL OF RELIGION MALE STUDENTS
(N-22)

Occupational Scale	1	2	3	4	5	6	7
YMCA Phys. Dir.							
Personnel Mgr.	.73						
Pub. Adminstr.	.62	.87					
YMCA Sectry.	.86	.86	.69				
Soc. Sci. Tchr.	.55	.67	.42	.75			
City Sch. Supt.	.42	.74	.64	.68	.62		
Minister	.75	.75	.63	.86	.63	.66	

trying to demonstrate the broadness of their interests at the time of enrolling in a seminary.

These two groups of seminary students may be compared with the theological students enrolled in Presbyterian Seminaries. The SVIB is administered to students in the various Presbyterian seminaries and the results are compiled by the Board of Christian Education in the United Presbyterian Church for the purpose of setting norms and raising the standards of the ministry. These norms are based on one hundred theological students and are supplied by Clifford E. Davis.²⁹

The mean score and standard deviations on the primary, secondary, and tertiary interests for these students are shown in Table XXXVI, page 207.

No score in the test of the interests of these students is sufficiently like the interests of successful people in other occupations that they may be regarded as primary interests. Davis explains that the mean score for the minister's scale was formerly in the primary interest range but has dropped entirely out of the former range of interests.³⁰ All other occupations of the social service group are among their secondary interests, except the City School Superintendent scale. The scales of the Mathematics-Physical Science Teacher, Printer, Osteopath, Real Estate

²⁹ Davis, p. 14.

³⁰ Ibid., p. 12.

TABLE XXXVI

THE MEAN SCORES AND STANDARD DEVIATIONS OF
PRIMARY, SECONDARY, AND TERTIARY INTER-
ESTS ON THE SVIB FOR MALE THEOLOGI-
CAL STUDENTS OF THE UNITED
PRESBYTERIAN CHURCH
(N-100)

Interest Scales	Group	Mean	Standard Deviation*
<u>Primary Interests</u>			
None			
<u>Secondary Interests</u>			
Social Science Teacher	V	44.98	7.90
Social Worker	V	43.15	9.73
Public Administrator	V	42.48	9.78
YMCA Secretary	V	42.36	9.98
YMCA Physical Director	V	41.16	8.90
Musician	VI	40.81	
Personnel Director	V	40.35	11.49
<u>Tertiary Interests</u>			
Minister	V	38.37	9.07
Mathematics-Phys. Sci. Teacher	IV	37.19	
Printer	IV	36.84	
Osteopath	I	36.65	
Real Estate Salesman	IX	35.67	
Life Insurance Salesman	IX	35.42	

*Given only for Group V.

Salesman, and Life Insurance Salesman are included with the minister's scale as tertiary interests.

H. Differentiation of Women's Interests

There are several difficulties involved in measuring the interests of women in a seminary. The church has not always encouraged women to consider a professional religious role, except in a para-religious activity as an educator, missionary, musician, social worker, or minister's wife. The opportunities are so scarce for a career that female religious workers have not achieved a professional vocational identity. However, there is no psychological reason why many women should not become as effective religious workers as men. However, men and women have somewhat different abilities--women apparently are superior to men in linguistic abilities and in vocational areas that involve human contact, and men surpass women in mechanical activities and vocational areas that involve handling things. Ministers test high on the M-F scale, and it is partly because of the absence of marked mechanical interest and financial objectives that they produce an interest score that places them among the more feminine vocational group composed of editors, musicians, teachers, and artists.

It is among the occupational interests represented in Social Welfare Group V, as classified in the SVIB, that men and women show somewhat the same capacities, share the

same interests, and engage in the same work. However, women may have the same general capacity as men, and at the same time use this capacity in different directions. Men and women may have similar interests, and yet expect to accomplish different aims in life. Men and women may be employed at the same job, but there is little evidence that they do the same work. Men and women are more similar than dissimilar with respect to their interests, but it is because of the difference in the manner that women and men direct their capacities and interests that different norms must be established.

The women who are enrolled at SCST are tested on the interest scales for women's blank at the time of their enrollment. The total number of women enrolled during the history of the seminary does not offer a normal statistical distribution that will give dependable correlation coefficients, means, or standard deviations for generalization to larger groups. Since the population presented in these statistics is the total number of women in the seminary, the norms that are derived must stand until the cumulative level of the population is great enough to produce a distribution curve from which valid norms can be derived.

The mean scores and standard deviations of primary, secondary, and tertiary interests on the SVIB for female theological students in SCST are presented in Table XXXVII, page 210.

TABLE XXXVII

THE MEAN SCORES AND STANDARD DEVIATIONS OF
PRIMARY, SECONDARY, AND TERTIARY INTER-
ESTS ON THE SVIB FOR FEMALE THEOLOGICAL
STUDENTS IN THE SCST
(N-13)

Interest Scale	Mean	Standard Deviation
Music Teacher	53.00	6.16
Musician	51.08	4.55
Social Worker	50.46	6.49
Occupational Therapist	40.62	11.00
Elementary Teacher	39.38	8.70
Home Economics Teacher	35.08	7.01

There is no minister's scale upon which the similarity of interests of women to successful women in the ministry can be tested, but the primary, secondary, and tertiary interests of these students are similar to interests that would normally be associated with the kind of ministry women would often perform in the church.

I. Women's Interests Compared With Other Seminary Groups

In any attempt to enlarge the picture of interests presented by the small number of women in the SCST population, a comparison of norms will be presented with the Pacific School of Religion and the United Presbyterian Church.

The Pacific School of Religion had seven women among the junior class enrolled in 1962. The SVIB profiles of these women were made available for this study.

Before any statistics are presented, the group will be described. The average age is 32.1 years, and ranges from twenty-one to forty-six. Four women are single, and three are married. The seven women come from six different colleges: Goshen College, Harding College, Manchester College, Northern Illinois University, University of California (two students), and University of Nebraska. The women also belong to six different denominations: Church of the Brethren, Chirsitan (Disciples of Christ), Lutheran, Presbyterian, United Church of Christ (two students), and Unitarian.

It would be difficult to imagine a more heterogeneous group of women. It is even more difficult to differentiate the occupational interests when the interest technique necessitates a fairly homogeneous group. The mean scores and standard deviations of the primary, secondary, and tertiary interests on the SVIB for female theological students in Pacific School of Religion are shown in Table XXXVIII, page 213.

It seems that in spite of the heterogeneity of background, the interests of this small group of women tend to converge at the point of their religious aspirations. The ten occupational interests with which this group indicate a similarity are occupations that are normally associated in everyday life and are consistent with the femininity that would be expected of women in religious vocations. No pattern could be established on the interest profile of such a small group, but it seems that a trend toward a pattern is shown.

The United Presbyterian Church maintains a counseling program for denominational seminaries and in the process of rendering this service have compiled the SVIB norms for both men and women. Clifford E. Davis³¹ has supplied the norms of women for this study. No description of the background of the population is available, but

³¹ Davis, p. 14.

TABLE XXXVIII

THE MEAN SCORES AND STANDARD DEVIATIONS OF
 PRIMARY, SECONDARY, AND TERTIARY INTER-
 ESTS ON THE SVIB FOR FEMALE THEOLOGI-
 CAL STUDENTS IN THE PACIFIC SCHOOL
 SCHOOL OF RELIGION
 (N-7)

Interest Scale	Mean	Standard Deviation
Social Worker	52.00	7.48
Social Science Teacher	38.86	11.11
English Teacher	38.57	12.53
Author	37.57	10.70
Musician	37.43	11.30
YWCA Secretary	37.00	7.75
Elementary Teacher	36.86	9.12
Music Teacher	36.29	11.60
Librarian	35.57	8.22
Housewife	35.29	9.18

a group of one hundred subjects are included in the sample. The means of the primary, secondary, and tertiary interests on the SVIB for female candidates for church vocations in the Presbyterian Church are shown in Table XXXIX, page 215.

These scores include seminary candidates as well as candidates for missionary service in the United States and abroad. Davis says that no pattern has been established for the women's test.³² In view of the difficulties of testing a heterogeneous group, and deriving norms that discriminate the interests of women who propose to work in church vocations, it seems that the norms in each group show some similarity.

The interests presented by the three groups of women include the areas of social work, music, teaching, occupational therapy, and the role of a housewife. Possibly these occupations could be grouped as similar interests that would be related to the interests of women in the ministry. Any effort to establish professional norms for women in the ministry will be difficult for several reasons. A large number of women are married, or will be married, and never expect to enter the ministry in the same manner that men enter the ministry. The seminary groups of women also show more universalized interests, which afford them room to work in any one of several occupations, and even

END

³²Davis, p. 11.

TABLE XXXIX

THE MEAN SCORES AND STANDARD DEVIATIONS OF
PRIMARY, SECONDARY, AND TERTIARY INTER-
ESTS ON THE SVIB FOR FEMALE CANDI-
DATES FOR CHURCH VOCATIONS IN THE
UNITED PRESBYTERIAN CHURCH
(N=100)

Interest Scale	Mean
Social Worker	42.50
Stenographer-Secretary	40.12
Elementary Teacher	39.11
Office Worker	38.25
Occupational Therapist	37.06
Musician	37.00
Housewife	35.18

than one occupation at the same time. It will certainly be found that men can be better differentiated in respect to the ministry among a large number of occupations than can women. In view of the heterogeneity among women in the seminary, the recognition and use of interest norms should allow many women to be women in the church, and at the same time guide some to careers as professionals. The kind of capacities that women have to offer in a career must afford them opportunities to express themselves as women, instead of having to compete with men in terms of men's capacities.

J. Summary

A single all-inclusive theory of the origin and development of vocational interests has not been attained, because psychology has not achieved a single universally accepted theory of personality development or motivation. While personality must be treated as an integrated whole, the various traits by which one individual differs from another must be considered. The intrinsic factor of motivation is vastly more important than the extrinsic inducements associated with the job an individual does. The subjective factors of need, interest, and attitudes, and their relation to one another, are better understood when it is seen that the needs of an individual are met as he derives satisfaction from the identification of himself with some respected group, or when he becomes a part of super-individual whole.

In the process of adjusting to a complex culture, the pattern of vocational interests which gradually forms, becomes closely identified with the self, and the individual finds experiences which offer some basis for the integration of personality. The SVIB affords a means of measuring the cultural and personal expectations of the ministry against the total perspective of the church. The SVIB is a valuable instrument in personal counseling, but its value is enhanced by having norms by which the individual seminary student in SCST can be compared with the group that constitutes the ministry to which he aspires. The profile of the individual at any one time, as indicated by the SVIB may be related to the anticipated self-fulfillment in a role.

The norms of the SCST seminarian on the SVIB places the seminarian in the middle of a group of social welfare occupations, indicating that his interests are like those of several groups of professional people who are successfully engaged in their work. The broadness of this pattern may mean that the concept of the ministry has changed since the time of the normative group, upon which the ministers' scale was established. This is probably true, but it also seems that the seminarian tends to aspire toward a ministry that is adjusted toward the demands of the contemporary scene. Each seminary and denominational group shows the individuality that is expected in the genus that is Protestantism, and yet the pattern of the ministerial image is also present.

The pattern of feminine interest has not been established, because of the smallness and the heterogeneity of the groups that have been studied. Women's interests are much more difficult to differentiate than men's interests, but the sketchy profile that is presented tells something of women's effort to be women, as well as their desire to find a religious vocation.

CHAPTER IX

THE GRADUATE EXAMINATION AND ITS NORMS

A. The Graduate Record Examinations

The GREs are described as tests designed to measure the student's achievement and ability to work at the graduate level. The tests are divided into three categories: an Aptitude Test, Area Tests, and Advanced Tests. The first of these is a test of general mental ability, yielding separate scores in verbal and quantitative subjects, and is intended to serve as one predictor of ability to do graduate work. The test scores are also useful in evaluating the students' performances on the achievement tests. The Area tests provide examinations in social science, humanities, and natural science. They constitute a general-achievement battery designed to estimate the level and extent of a student's knowledge and understanding in the major areas of college studies. The Advanced Tests are examinations in twenty specialized fields to test students in their major subjects of undergraduate study and intended graduate specialization.

The Aptitude Test and the Area Tests are given to students who are admitted to SCST, and the scores become a

part of the student's file. The Aptitude Test and the Area Tests will be studied separately, since they measure two different dimensions of ability.

B. Aptitude

The term "aptitude" is often so loosely employed that it must be defined for purposes. An early definition in Warren's Dictionary of Psychology suggests a point to begin the study. Aptitude is there defined as a "condition or set of characteristics regarded as symptomatic of an individual's ability to acquire with training some knowledge, skill, or set of responses, such as the ability to speak a language, to produce, or some other ability."¹ This definition describes aptitude in the popular and loose way that the term has come to be used, both by vocational counselors and laymen. The concept of aptitude "for" a vocation denotes a combination of traits and abilities which result in a person's being qualified for some type of occupation or activity.

The term "aptitude" deserves a more scientific definition. Warren's definition implies that aptitude is not necessarily an entity, but may be a constellation of entities which are important to people in some combination, if they are to learn something. The weakness of the definition

¹Warren, p. 3.

is that it is global and does not specify or describe the entity which is important, in varying degrees, in a variety of occupations and activities. We might say that some person has a great deal of aptitude for the ministry, meaning that he had in a high degree some of the characteristics which make for success in the ministry. This comment says very little, for it does not tell what characteristics are necessary for success in the ministry. If we say that a minister is successful because he has an aptitude for public speaking, we know that he has a discrete characteristic that is important in the ministry, and it may be understood that he has some other aptitudes that contribute to his success. Aptitude should be defined in terms of specific characteristics that are important "in" vocations, rather than as a generalized proclivity "for" a vocation.

Various combinations of traits and abilities may make for success in the ministry. One minister may be successful because of scholarly ability, public speaking ability, and a warmth of manner which more than make up for a lack of interest in people as individuals and a dislike for the details of church planning. Another minister may be equally successful because of his empathic manner with people, his friendly spirit, and his church management, even though his academic ability and speaking skills are mediocre. Similar differences could be pointed out in other occupations in which there is sufficient flexibility of role

to permit varying patterns of success.

Because of the varying combinations of special aptitudes and traits which are important in a given occupation, it is desirable to use the word aptitude in its narrower sense in reference to a constellation of specific abilities that are important in the learning of the ministry.

In discussing aptitude one other term needs brief definition. The word ability has been used in a way that would indicate that it describes an element in the compound of aptitudes. Guilford² describes the dimensions of aptitude and refers to various abilities as factors in the structure of aptitudes. He names three aptitudes: Perceptual, Psychomotor, and Intellectual. He continues the breakdown into twenty-eight factors or abilities that have been defined by factor analysis and measured by many tests. This has been a long way to the point that when we speak of aptitude we are including a large number of discrete abilities or factors that may need to be specified. Some of these abilities have been tested, and there are many others that need to be studied when we know more about them, but in the GRE we are only dealing with two abilities--verbal and quantitative.

²Guilford, Personality, p. 342.

C. Aptitude and the Aptitude Test

It needs to be clear that the Aptitude Test of the GRE is a test of two specific abilities that are segments of the Aptitude of intelligence. The Aptitude Test is described as a general scholastic ability test suitable for the college senior or graduate school student, and it measures verbal ability and quantitative ability. The first part consists of verbal reasoning and reading comprehension. The second part includes quantitative arithmetic reasoning and interpretation of mathematical symbols. Essentially, it is similar to other intelligence or analogy tests used at the graduate school level, and is a well constructed test of general scholastic potential.

The Aptitude Test needs to be accepted for what it measures. It is a measure of the ability to comprehend words, deal with numbers, and engage in reasoning. If the purpose of the test is to enable a graduate faculty to place a student, then it is only a measure of the student's ability to succeed scholastically in school. However, it does measure the abilities demanded in the solution of problems which require the comprehension and use of symbols, and to that extent is a measure of the ability to engage in the academic aspects of the learning process. It also has a forward-looking implication, suggesting that the individual is, or is not, prepared to learn with some level of

excellence in a specified manner.

D. The Norms of the Aptitude Test at Southern California
School of Theology

The GRE has been given to two hundred and twenty-one male and thirteen female students in SCST. The norms of male and female SCST students on the Verbal and Quantitative sections of the Aptitude Test will be placed in a table showing their relation to the mean and standard deviation scores received by the norm reference group of college seniors. The norm table was developed so that the per cent of students scoring lower than the selected scaled scores received by the norm reference group of seniors could be shown. There are several advantages to this manner of presentation. The norm tables based on the original group are subject to change, as the findings with larger groups can be validated in all of the tests of the GRE. By anchoring the scaled scores of the normative group to the original norm scale, it is possible to take into account variations in the level of difficulty of the tests, so that a given numerical score on the scale can represent the same level of achievement, regardless of the changing form of the test on which the score was earned. Secondly, the scores made by a student in 1963, can be compared with the scores of another student in 1952. The norm table also enables new norm reference groups to be established to indicate changes that

may occur as the measurement of the senior population becomes more "national." Thirdly, the norm table also enables the individual senior taking the test to see his relative position among other seniors who have taken the test at the ~~same~~ time. Fourthly, the norm table allows an institution to evaluate the level of abilities that are presented by students who seek admission to the school, or who have been admitted and are subject to the process of education. The norm of a school takes on new meaning as it can be compared with the norm reference group. In turn, the level of ability presented by an individual student has more predictive value when it can be seen in relation to other students in his own group who have also taken the examination.

The norms for the Aptitude Test and the Area Tests were obtained by testing whole classes of seniors in twenty-one colleges. There were 3,035 students. The twenty-one colleges were accredited schools from the Northwest, North Central, Middle, and Southern sections of the United States. Seven are privately controlled, nine are church controlled, four are state controlled, and is controlled by a city. The authors of the test do not claim the norms are "national norms," but the schools seem to be a cross-section of schools that may be represented in any class enrolling in most graduate institutions.

The scaled scores on the chart are percentile scores showing the per cent of students with lower scores than the

scaled score received by an individual student. The mean score of an institution also corresponds with the scaled scores on the chart, so the relative standing of institutions may be compared. The means, standard deviations, and the per cent of male and female students at SCST scoring lower than selected scores on the Verbal and Quantitative Tests of the GRE, as compared with similar data of the Normative Group,³ will be shown in Table XL, pages 227 and 228.

In interpreting the data in Table XL, it may be observed that the mean scores of the normative group and SCST students are entered in the scaled score column, since the mean score is in terms of these three-digit figures. This column also facilitates seeing the per cent of all students scoring lower than the scaled scores. The mean ability level of SCST students is above the mean level of the normative group on the Verbal Test and is below the average level on the Quantitative Test. The self-selected student seeking admission to seminary education might be expected to show greater ability in verbal reasoning and reading comprehension than in arithmetic reasoning and interpretation of descriptive data. It is possible that this difference in ability and variation from the normative reference group may represent a factor that discriminates the seminary students with other professional interests.

³Graduate Record Examination Scores . . ., p. 10.

TABLE XL

THE PER CENT OF MALE, FEMALE AND TOTAL NUMBER OF
STUDENTS AT SCST SCORING LOWER THAN SELECTED
SCORES ON THE VERBAL AND QUANTITATIVE TESTS
OF THE GRE, AND A COMPARISON OF MEANS AND
STANDARD DEVIATIONS WITH THE NORMATIVE
GROUP

(Per cent of students scoring lower than scaled scores)						
Scaled Scores	<u>Verbal Ability</u>			<u>Quantitative Ability</u>		
	Men	Women	Total	Men	Women	Total
580.00	80.00	77.00	79.00	77.00	93.00	84.00
560.00	75.00	73.00	44.00	70.00	89.00	79.00
540.00	70.00	68.00	69.00	66.00	87.00	76.00
520.00	64.00	62.00	63.00	59.00	82.00	70.00
510.77**		58.56**				
507.00*				52.80*		
503.89**			57.40**			
503.48**	57.36**					
500.00	56.00	55.00	56.00	50.00	75.00	61.00
498.69**				48.68**		
495.25**						58.86**
492.00*	52.40*		52.40*			
491.00*		51.85*				
480.00*	47.00	48.00	47.00	40.00	66.00	52.00*
460.00	40.00	41.00	41.00	29.00	55.00	41.00
447.00*					51.10*	

TABLE XL (continued)

Scaled Scores	<u>Verbal Ability</u>			<u>Quantitative Ability</u>		
	Men	Women	Total	Men	Women	Total
440.00	31.00	35.00	33.00	24.00	49.00	35.00
436.92**					47.30**	
420.00	23.00	26.00	24.00	17.00	38.00	26.00
400.00	15.00	17.00	16.00	10.00	28.00	18.00
Norm Group*	Men	Women	Total	Men	Women	Total
Mean	95.00	101.00	98.00	95.00	81.00	94.00
Stand.Dev.	95.00	101.00	98.00	95.00	81.00	94.00
Number	1,657	1,378	3,035	1,657	1,378	3,035
SCST Group**	Men	Women	Total	Men	Women	Total
Mean	503.48	510.77	503.89	498.69	436.92	495.25
Stand.Dev.	96.61	112.65		108.84	76.20	
Number	221	13	234	221	13	234

E. Achievement

The Area Tests of the GRE have been described as one of the highest developments in achievement testing.⁴ Since the Area Tests, as tests of achievement, have been associated with tests of aptitude in a testing battery, it is important to know the meaning and relation of the two words--achievement and aptitude. In considering the application of students for seminary education, an admissions committee is generally concerned with aptitude or promise--that is, with prospect of success in graduate education, where the applicant has as yet had no substantial training or experience. As stated in a previous section of this chapter pages 220-222, aptitude is concerned with some of the abilities to engage in the academic aspect of the learning process, and in that respect it also has a forward-looking implication. In the final selection of students to be admitted to seminary education, the admissions committee is more likely to be concerned with achievement or proficiency--that is, with present ability to engage in the academic areas that are involved in the field of seminary education. Achievement tests are measures of the outcome of past experiences in certain academic areas such as social sciences, humanities, and natural science. Other achievement tests are used with more specific fields of concentration as

⁴Buros, 5th, p. 10.

philosophy, psychology, and literature, but a faculty is more concerned with the level of achievement in a broader spectrum of knowledge.

Super⁵ points out that the difference between an aptitude test and an achievement test lies more in its use than in its content. An achievement test is used to ascertain what and how much has been learned; the focus is an evaluation of the past without reference to the future, except for the implicit assumption that acquired knowledge will be useful in its own right in the future. An achievement test in the areas of social science, humanities, and natural science is therefore an index to the mastery of the essential materials in those fields. An aptitude test is a measure of the facility with which knowledge is acquired. But, obviously, knowledge of certain types of facts may be indicative of facility for the learning of other types of facts.

Therefore, a test of achievement in the area covered during undergraduate study may be a good index of aptitude for success in seminary education. This relationship is strictly hypothetical until it is checked with the outcome. An achievement test can be used as an aptitude test only when there is a known relationship between the performance tested and the kind of performance in which success is

⁵Super, Appraising Vocational Fitness, p. 4.

predicted. Success must not be confused with the "grade-getting" factor, which represents the personal qualities that contribute toward gaining similar grades from different instructors in different courses.⁶ It may be seen that achievement tests and aptitude tests represented in the GRE battery used in SCST share the same qualities, in that they measure abilities and knowledge skills that are predictive of success only in the continued performance of the kind of tasks known to be related to these abilities and knowledge skills, and do not predict success in other areas.

F. Achievement and the Area Tests

The Area Tests are described as instruments designed to assess the broad outcomes of education in three areas of human culture: social science, humanities, natural science. Each student taking the tests takes all three tests. These tests emphasize the abilities and understandings which are important to the individual's effectiveness as a member of society, and test his grasp of basic concepts and his ability to apply them to the types of material which are presented for his interpretation.⁷ Each test measures a combination of factual knowledge and ability to interpret material in its own field. One cannot be sure, therefore,

⁶Carroll, pp. 307-332

⁷Graduate Record Examination Scores . . ., p. 4.

whether the individual's score is attributable to the quantity of retained knowledge or to his ability as an interpreter. Factual knowledge is more directly influenced by the quality of teaching and the diligence of the student, than is the ability to comprehend and interpret. Since the scores cannot distinguish between acquired and innate qualities, they can be used with servicable accuracy to indicate the ability of a student to continue his education at a higher level.

G. The Norms of the Area Tests in Southern California
School of Theology

The norm table has been described in the section of this chapter on the norms of the Aptitude Test in SCST, pages 224 and 225. The norms of the Area Tests will be placed on the same kind of chart, so these norms and the per cent of students receiving lower scores than the scaled score representing the average score of SCST students can be compared with similar data from the normative reference group. The same students of SCST and the seniors in the colleges of the normative reference group took both the Aptitude Test and the Area Test. The means, standard deviations, and percent of male, female, and total students at SCST scoring lower than selected scores on Social Science, humanities, and Natural Science Tests of the GRE is compared with similar data on the normative reference group and will

be shown in Table XLI, pages 234 through 237,

In interpreting the data in Table XLI, it may be observed that the mean scores of the normative group, and SCST students are placed in the scaled score column so that the per cent of students scoring lower than these scores can be seen. The scores of SCST men tend to be higher on the Social Science and Humanities tests and lower on the Natural Science test than are the scores of men in the normative group. Almost sixty-three per cent of men in the normative group receive lower scores on the Humanities test than the SCST men. The scores of the SCST women tend to be higher on all tests than the scores of women in the normative group, and 68.54 per cent of women in the normative group receive lower scores on the Humanities Test than do SCST women. It may be that higher scores on the Humanities Test, and the interests that are associated with it, discriminate the students seeking admission to a seminary from students of a normative group.

H. Intercorrelation of Graduate Record Examinations Test Scores

In developing the tests in the GRE series, the Aptitude and Area Tests were correlated by using the data based on test scores from the 221 applicants for admission to SCST who have been tested on all tests of the Aptitude and Area Tests. The correlation among scores on the Aptitude and

TABLE XLI

THE PER CENT OF MALE, FEMALE AND TOTAL NUMBER OF
STUDENTS AT SCST SCORING LOWER THAN SELECTED
SCORES ON THE SOCIAL SCIENCE, HUMANITIES,
AND NATURAL SCIENCES TESTS OF THE GRE
AREA TESTS AND A COMPARISON OF THE
MEANS AND STANDARD DEVIATIONS WITH
THE NORMATIVE GROUP

(Per cent of students scoring lower than scaled scores)						
Scaled Scores	<u>Social Science</u>			<u>Humanities</u>		
	Men	Women	Total	Men	Women	Total
580.00	75.00	84.00	79.00	83.00	74.00	79.00
560.77**					68.54**	
560.00	69.00	79.00	74.00	78.00	68.00	74.00
540.00	60.00	74.00	66.00	72.00	58.00	66.00
520.00	53.00	68.00	60.00	67.00	53.00	61.00
516.00*						
513.00*					49.50*	
512.95**						57.47**
510.18**				62.58**		
509.91**	49.46**					
507.90**			55.66**			
505.00*	47.70*					
503.08**						
501.45**						
500.00	46.00	60.00	52.00	58.00	43.00	51.00
494.00*						49.20*
489.00*			48.70*			

TABLE XLI (continued)

Scaled Scores	<u>Natural Science</u>		
	Men	Women	Total
580.00	71.00	92.00	80.00
560.77**			
560.00	64.00	88.00	75.00
540.00	57.00	82.00	68.00
520.00	50.00	77.00	62.00
516.00*	48.60*		
513.00			
512.95**			
510.18**			
509.91**			
507.90**			
505.00*			
503.08**	45.16**		
501.45**			55.51**
500.00	43.00	71.00	55.00
494.00*			
489.00*			

TABLE XLI (continued)

Scaled Scores	Social Science			Humanities		
	Men	Women	Total	Men	Women	Total
487.00*						
480.00	39.00	53.00	46.00	52.00	36.00	45.00
478.00*				51.30*		
473.84**						
471.00*		49.85*				
460.00	32.00	46.00	38.00	45.00	29.00	38.00
459.23**		45.73**				
452.00*						
440.00	24.00	39.00	31.00	36.00	22.00	30.00
420.00	19.00	32.00	25.00	30.00	18.00	24.00
400.00	13.00	25.00	19.00	21.00	11.00	16.00
<hr/>						
Norm Group*	Men	Women	Total	Men	Women	Total
Mean	505.00	471.00	489.00	478.00	513.00	494.00
Stand.Dev.	97.00	99.00	99.00	99.00	96.00	99.00
Number	1,657	1,378	3,035	1,657	1,378	3,035
<hr/>						
SCST Group**	Men	Women	Total	Men	Women	Total
Mean	509.91	459.23	507.90	510.18	560.77	512.95
Stand.Dev.	95.79	93.94		90.88	66.52	
Number	221	13	234	221	13	234

TABLE XLI (continued)

Scaled Scores	Natural Science		
	Men	Women	Total
487.00*			51.10*
480.00	36.00	64.00	49.00
478.00*			
473.84**		62.15**	
471.00*			
460.00	30.00	58.00	42.00
459.23**			
452.00*		54.80*	
440.00	24.00	50.00	36.00
420.00	19.00	39.00	28.00
400.00	14.00	29.00	21.00
<hr/>			
Norm Group*	Men	Women	Total
Mean	516.00	452.00	487.00
Standard Deviation	100.00	83.00	98.00
Number	1,657	1,378	3,035
<hr/>			
SCST Group	Men	Women	Total
Mean	503.08	473.84	501.45
Standard Deviation	90.03	62.12	
Number	221	13	234

Area Test on a Reference Group⁸ and the SCST norm group are shown in Table XLII, page 239.

The intercorrelation of verbal and quantitative scores in both groups (.42 and .55) are low enough to justify differential predictions. The verbal score of the Reference Group correlates moderately, but substantially, with the social science and humanity scores, but has lower correlation with all other scores. The quantitative score of the SCST norm group correlates moderately and substantially with the social science and humanities test scores. Other correlations are substantial, but lower. The coefficients are low enough to indicate that the tests are measuring different abilities. The natural process of selection occurs sufficiently among those who graduate from college and plan to pursue graduate studies so that the range of abilities in such populations shrinks and the coefficients of correlation are correspondingly low. The relationship of aptitude and achievement is sufficient to make their scores useful in assessing a group, but the standard error of measurement is so great that it is difficult to differentiate the individual students, when interpreting test scores. The data in Table XLI indicates that the quantitative factor in the aptitude test correlates higher with abilities in the social science and humanities test than does

⁸Graduate Record Examination Scores . . ., p. 4.

TABLE XLII
CORRELATION* AMONG SCORES ON THE APTITUDE
TEST AND THE AREA TEST OF A REFERENCE
GROUP** AND THE SCST NORM GROUP

GRE Tests	Aptitude Tests		Area Tests	
	Verbal	Quantitative	Humanities	Natural Science
Verbal		.42	.71	.70
Quantitative	.55		.49	.36
Social Science	.41	.71		.58
Humanities	.41	.70	.63	
Natural Science	.55	.58	.52	.57

*Correlations for Reference Group are above the diagonal; correlations for SCST Norm Group are below the diagonal. Reference Group N-1500, SCST Norm Group N-221.

**Graduate Record Examination Scores. . . , p. 23.

the verbal factor. Yet the seminary student scored lower on the quantitative factor than on the verbal factor, and scored high in his social science and humanity abilities. A high score in verbal ability should correlate with high scores on social science and humanity interests. It is possible that the seminary student is inclined to deal with social science and humanities subjects in a quantitative manner.

I. Summary

The student seeking admission to SCST shows greater ability in verbal reasoning and reading comprehension than in arithmetic reasoning and interpretation of descriptive data. Also, the scores of SCST students tend to be higher on the Social Science and Humanities Tests than on the Natural Science Test. It appears that greater ability in verbal reasoning and higher scores in social science and humanity interests may discriminate the student seeking admission to graduate education. The intercorrelation of scores on the aptitude and area tests suggest that verbal and quantitative reasoning are not so far apart, since the scores on quantitative reasoning ability correlates higher than verbal ability with social science and humanities test scores.

All of the scores of these tests of ability and

achievement are valid measurements of the individual student. At the most, however, they are only tests of two specific abilities--verbal and quantitative reasoning--and three areas of achievement--social science, humanities, and natural science. Scores on these tests gain their greatest meaning when they are considered with other indices, such as college grades in major subjects, personality adjustment, and interest factors.

CHAPTER X

GROUP AND INDIVIDUAL CHANGES

A. The Changing Personality

The personality of an individual is a matter of concern to those who select students for education in the ministry. The immediate objective at the time the person is selected as a student is to assess the significance of personality and temperament traits for success and satisfaction in school work. There is an implied assumption that any correlation between personality traits and adjustment in seminary experience will be continued into the ministry, but objective study of this relationship is lacking.

While the role of personality in the ministry is largely an unexplored area, and is beyond the scope of this dissertation, an attempt will be made to observe some of the measurable changes in personality that have occurred in a class of SCST students in the three-year period of their seminary education. While the process of selection has partly eliminated the maladjusted candidates for the ministry, there is some concern with the degree and type of personality integration that is presented by the student at the time he begins his parish work.

B. The Seminary Class of 1963 of the Southern California School of Theology

The SCST class graduating in 1963 was selected as subjects for the study of changes in personality in the course of seminary experience. The students of this class were not chosen because they might be a representative cross-section of the seminary population, but because they were a complete group that was available for retest with the MMPI. They share in the heterogeneity of the seminary population in the characteristics of their background. There are twenty-one males in the group. Twelve of the group are married and nine are single. Their average age at the time of entering the seminary in 1960, was 25.6 years. They came from eighteen different colleges. Eighteen students are Methodists, and one each belongs to the Disciples of Christ, United Church of Christ, and Presbyterian Churches.

C. Changes Within the Southern California School of Theology Seminary Class in a Three Year Period

The class entering SCST in September, 1960, was tested with the battery of tests required by the seminary for admission to the school. The class took the MMPI as individuals before arriving at the seminary, and there was probably some fear of being denied admission.

The second test was given to these same students in June, 1963 under different circumstances. An effort was made to give the test when each student had finished his academic work and could take the test in his leaisure time. It seemed that each student moved from the anxiety of the school year to the panic of moving out of apartments into new church positions. The students graciously agreed to take the tests, but showed their resistance to doing what was not required of them by their slowness in completing the tests. No student refused to take the retest, and all students completed it.

The mean scores, standard deviations, and differences between means on a test-retest of a class of SCST students are shown in Table XLIII, page 245.

Changes are found on the three validity scales, and on eight of the ten clinical scales. Only slight changes are indicated on two scales (D, and Pt). All other scales show considerable difference between the means of the scores in the three year period, but only one change is significant at the five per cent level (Hs). Among the thirteen scales the level of ten scales is higher and the level of three scales is lower. The same information may be seen more clearly in Figure 8, page 246.

TABLE XLIII

THE MEAN SCORES, STANDARD DEVIATIONS, AND
THE DIFFERENCE BETWEEN MEANS ON A TEST-
RETEST OF SCST STUDENTS
(N-21)

MMPI Scale	<u>JUNIOR YEAR</u>		<u>SENIOR YEAR</u>		t-Ratio
	Mean	Standard Deviation	Mean	Standard Deviation	
L	50.95	7.93	47.62	4.47	1.20
F	48.57	4.24	49.67	3.87	.78
K	62.48	6.78	64.90	4.69	1.58
1 Hs	51.71	5.47	55.86	8.37	2.59*
2 D	52.38	8.25	52.48	10.32	.49
3 Hy	60.43	4.69	62.71	6.00	1.48
4 Pd	58.14	5.91	60.19	8.14	1.16
5 Mf	67.67	7.21	65.86	8.66	.95
6 Pa	54.81	5.47	56.95	6.85	1.28
7 Pt	58.71	7.93	59.34	9.49	.32
8 Sc	57.71	9.16	60.19	9.79	1.64
9 Ma	60.53	8.36	58.00	8.88	1.30
0 Si	43.86	6.93	44.81	6.33	.55
Number	21		21		

* Significant at the .05 level

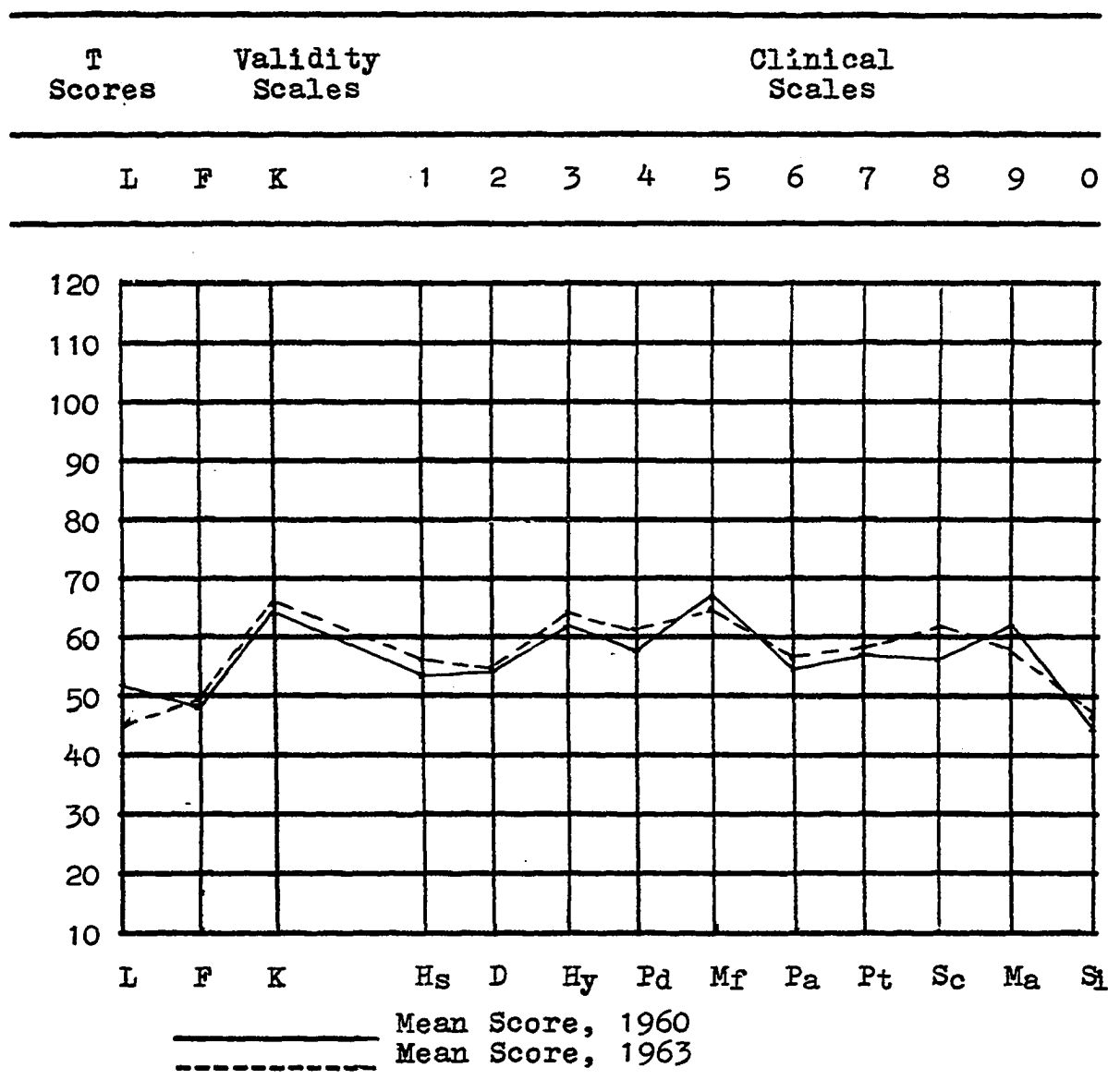


FIGURE 8

MEAN SCORES ON MMPI SCALES FOR SCST MALE STUDENTS OF THE 1963 CLASS IN THEIR JUNIOR AND SENIOR YEARS (N-21)

D. Changes in the Validity Scales

The changes among the validity scales suggest that over the three year period the seminary students have become more inclined toward admitting personal faults (lower L) and are less inclined to make a good impression by faking (lower F). At the same time, there is an increasing defensiveness (higher K) concerning these shortcomings; however, some increase in the K score may reflect increased ego strength and a view of themselves that is accepting and favorable.

E. Changes in the Clinical Scales

While there was some change in all of the clinical scales, only five scales were increased in the direction of a maladjustment at two standard deviations above the normative mean. These changes are not large, and some of the change might be regarded as a situational fluctuation; however, one difference in the mean was significant at the .05 level (Hs). The Hs scale change was an increase of over four value points, but this score is still low and within the normal limits. The Ma scale changed from a high point in the cluster of traits to a much lower point close to the normal range. The Mf scale remains at the peak of the personality profile, but there is considerable tendency toward lesser femininity of interests and activities (lower Mf).

The scores on each of the Hy, Pd, and Sc scales increased about two value points. The Hy scale is the high point among the clinical scales. Cottle offers an interpretation of this type of profile that seems to fit. He says:

A score above average on the Hy scale seems to indicate a lack of self-confidence for normals. It represents a tendency to overreact, to overanticipate a situation, to overplan for it. The individual makes more plans than are needed. Such a person will sound off fairly readily and calm down quickly afterwards.¹

Hathaway² describes high Hy scale persons as ". . . frank, talkative, enthusiastic, sociable, adventurous, affectionate, and worrying." He also says that there is ". . . an overcompensatory rejection of the possibility that the subject is capable of being neurotic." Hathaway's interpretation may account for the high score on the K scale.

The scores on the Pd and Sc scales are paired with equal scores just over one standard deviation (60.19) above the norm of fifty. According to Hathaway,³ the Pd scale measures the similarity of a subject to persons' whose main difficulty lies in their absence of deep emotional response, and their disregard of social mores. Hathaway's description accounts for the digressions seen among psychopathic

¹Cottle, p. 63.

²Hathaway, The MMPI in Military . . ., p. 45.

³Hathaway, Manual for the MMPI, p. 15.

personalities, but does not entirely explain the presence of deviations among normal subjects. Gough⁴ offers a theory of psychopathy which is based on a lack of role-playing ability, and an incapacity to judge one's behavior from the viewpoint of others, to identify with others, or to share their outlook. This theory may account for the height of the Pd scales among seminary students who have some awareness of a discrepancy between the theological and sociological position of clergymen and the traditional mores of the community where they minister. The conflict of loyalty to theological positions and a desire to empathize with theologically deviate parishoners may produce feelings that are reflected on the Pd scale. Norman⁵ supports this view in his finding that social science majors are higher on the Pd scale than are students of other subjects. He interpreted this finding in terms of the students' concern for social ills and their interest in social change. Schofield⁶ did some research with medical students that is similar to the test-retest study of seminary students in this chapter. His test-retest results indicate that medical students show changes in their MMPI scale scores that are similar to changes among seminary students. In explaining the

⁴Gough, pp. 359-366.

⁵Norman, pp. 404-09.

⁶Schofield, pp. 47-52.

heightened Pd scale, Schofield proposes that students have a greater capacity for acknowledgment of and open hostility toward "manifest authority" after two years in the medical school. It is possible that this interpretation may apply to the general situation of graduate students in the social science fields. Harris and Lingo⁷ also related high Pd scores with the subtle items of other scales and concluded that the items of the Pd scale form clusters relating to family discord, authority problems, social imperturbability, social alienation, and self-alienation.

The Sc scale of the seminary class of SCST increased over two value points in the period of three years. Cottle⁸ says that high Sc students seem ". . . to avoid reality by day-dreaming and fantasy." Gough⁹ feels they are ". . . bashful, withdrawn, oversensitive, secretive, cautious, diffident, resigned." Perhaps, it is because of this tendency to withdraw that they are perceived as serious, wise, clear-thinking, sophisticated, humble, peaceable, and having aesthetic interests, but are undependable and not mature.

⁷Harris, p. 31. ⁸Cottle, p. 63.

⁹Tyler, pp. 541-546.

Apparently, however, those students with high Sc scores see themselves as pugnacious, hostile, rebellious, selfish, conceited, and boastful. Black says it may be that what other people perceive as seclusive behavior is felt by the high Sc individual himself as hostility and negativism.¹⁰ It is difficult to rationalize the student's self-styled boastfulness and conceit and other peoples' perception of their humility, with the students' complete absence of self-confidence and talkativeness, unless the high Sc students are boastful and conceited in fantasy only. Norman¹¹ found that students majoring in chemistry, mathematics, and physics have low Sc scores, in contrast with students in the behavioral sciences. He suggests that the physical sciences represent a "unique reality" which attracts certain people, and does not appeal to other people with high Sc tendencies. It would follow that entering the physical sciences is, in some respect, a withdrawal from another kind of "unique reality" where schizoid tendencies are most likely to develop through the cleavage that may occur between the individual's concept of himself and other peoples' concept of him that would be gained in more social circumstances.

¹⁰Black, p. 46.

¹¹Norman, pp. 404-409.

F. The Correlation Coefficients of Changes

A further analysis of the changes in the MMPI scales over the three-year period between the enrollment and graduation of the SCST seminary class may be seen in the test-retest correlation coefficients derived from the junior and senior MMPI records of the twenty-one members of the class, as shown in Table XLIV, page 253.

These coefficients varying from .00 to .70, indicate neither great stability nor great variability in the underlying measures, although many of the coefficients are statistically significant. The three-year interval is considerably longer than the period which intervenes where test-retest reliability is expected. The coefficients tend to support the differences in means that are reported in Table XLII, page 249.

G. The MMPI Code for the Class

There were no other appreciable changes in the mean score of the MMPI profile of SCST students in the three-year period. The MMPI code of the class at the time of enrollment was

593-748621/0

At the time of graduation the MMPI code of the class had changed to

5348-79 612/0

The *Mf* and *Hy* scales are high, and the *Si* scale is low in both codes. The *Ma* scale changed to a much lower position

TABLE XLIV

TEST-RETEST CORRELATION COEFFICIENTS FOR THE
JUNIOR AND SENIOR YEAR MMPI SCORES
OF SCST MALE SEMINARY STUDENTS
(N=21)

Scales								
	L	F	K	Hs	D	Hy	Pd	Mf
"r"	.31	.31	.00	.63**	.64**	.00	.58**	.42*

*Significant at .05 level

**Significant at .01 level

TABLE XLIV (continued)

Scales					
	Pa	Pt	Sc	Ma	Si
	.62**	.68**	.57**	.19	.70**

*Significant at .05 level

**Significant at .01 level

in the cluster of scales during the three-year period. While there have been some general changes in the elevation of the scales, there has not been a substantial change in the over-all shape of the MMPI profile for the groups of SCST seminary students. The scales seem to be completely rearranged in the code, but none of the scales exceeded a range that is fairly normal for graduate students.

One important consideration in interpreting a code summary for a given profile as it applies to a group of people or an individual is the stability or dependability of a given pattern. If a given profile is a highly transitory product that will shift markedly after a few points change in the raw score on some scale or scales, can a code be used to characterize a group or individual adequately? Some changes in the raw score of individuals in the seminary group were large, and probably reflected a valid change in the behavioral pattern of the test subject. Some changes were not great, and hence the basic code designation was left unaltered. It would appear that certain changes in basic pattern, although altering the code designation, do not correspond to important psychological changes, but rather constitute roughly equivalent patterns. Thus a subject with a code of 593-7 may later show a code of 957-3, and the patterns of personality might be regarded as equivalent. In the case of the changes in the code designations of the seminary class of SCST students in the interval of

three years, it is apparent that there is a complete shift of code numbers; and yet, when most of the numbers have changed positions with each other, it is difficult to conclude that there has been any personological change. The greatest change was in a lower position of code number 9 (Ma). Otherwise, there was only a shuffling in place.

H. Summary

The study of this class of SCST students began with the assumption that the norms that apply to the general population are not appropriate for purposes of comparing graduate students or ministers. This fact is demonstrated in Chapter VI, "The Minnesota Multiphasic Personality Inventory and Its Norms," as new norms were established for the SCST population. The changes in the class of seminary students were to be considered in relation to the norms of the seminary, and to the norms of the general population only as the responses of both groups are seen as already deviant. The profile of the class in its junior year was similar to the seminary profile, since both profiles are of students at the beginning of their seminary careers. The similarity is seen in minor differences in the elevation of the scales and in the positions of code designations for both groups.

The changes that occurred in the seminary class of 1963 was not great. While there was a general heightening

of seven scales (K, Hs, Hy, Pd, Pa, Pt, Sc), and a lowering of two scales (Mf and Ma), there was no major change in the structure of the personality scale in the direction of normality.

The general heightening of scales would indicate that from the junior to the senior years the seminary students show an increase in defensiveness which may be a way of balancing other more disturbing tendencies (higher K). The senior student is not as self-confident as he was when he entered the seminary, and he is inclined to compensate by increased talkativeness, enthusiasm, and sociability (higher Hy). The seminary experience of concern for social ills and the seminary student's interest in spiritual change has created an awareness of the discrepancy and conflict between his own self-image and the way he feels that he is seen by others. The student's occupation with academic subjects has not afforded him the time to develop his role-playing ability or to have self-confidence in his effort to identify with others and share their viewpoints. Three years of academic discipline and restraint has also heightened his struggle for identity and freedom, and against authority and authoritarianism. In spite of the inner rebellion, there is no room for expression of feeling in an environment that does not resist. The students see themselves as aggressive and hostile, and they are viewed by others as serious, humble, and sophisticated, but also as

undependable and not mature (higher Pd and Sc).

It would appear that three years in a seminary is more disturbing than maturing for a student, if the tendencies that have been described were heightened to any appreciable degree. Not all of the enthusiasm, confidence, and general élan manifested when the student entered the seminary have vanished. He is not depressed, and it is apparent that his poise has not been shaken by the conflicts and doubts that may have been aroused in the academic struggle (no change in D). He has also become more masculine, psychologically, which is a creditable outcome in a profession where the interests of men tend to be like those of women (lower Mf). The overproductivity in thought and action that seemed to be apparent when the student enrolled has now changed to the enthusiasm of an individual who is moderately extroverted and more restrained, (lower Ma and low Si).

Whatever interpretation may be given to the MMPI scales of a group or of an individual, it must be remembered that all scales show considerable variability. Some of the variability in a person will occur while the test is being taken, and other changes will result from situational pressures.¹² The shifting of moods in the individual may require frequent testing in the diagnosis of him in order

¹²Hathaway, MMPI in Military. . ., p.46.

to observe the stability of his traits. No individual or group will be completely stable in respect to a trait position from one time to another, so this stability needs to be considered in the interpretation of the test. Guilford says the correlation coefficient between two sets of scores given by the same instrument to the same sample of individuals at two different times is more a test of the stability of people than of the reliability of the testing instrument.¹³ It follows that even though the test and retest of the SCST students represent a three-year interval, the correlation coefficients show that the degree of change indicated in the scores is a reliable measurement.

¹³ Guilford, Personality, p. 110.

CHAPTER XI

THE DIVERGENT ELEMENTS IN THE SEMINARY POPULATION

A. The Measurement of a Heterogeneous Population

One of the primary purposes of this dissertation has been to determine to what extent the general norms of the various tests used in SCST for admitting students to the seminary and counseling them in the course of their seminary experience would prove applicable to the seminary group. In other words, the aim was to discover what areas of personality adjustment, traits of temperament, vocational interests, aptitudes, and achievements might distinguish the SCST seminary group from the general population. In observing the diversity that existed in the seminary population there was some doubt as to the value of norms that would come from such heterogeneity. When the completed norms of SCST were compared with the norms of students of other similar seminaries, and with more homonomous seminary groups, it was observed that a unique quality belonged to each seminary group, but there was also a recognizable pattern that distinguished the seminarian from other populations.

Actually, the SCST seminary group is a very homogenous population as the result of the process of selection, and the heterogeneous elements bear less weight than the strength of the factors that lead students to enter the seminary. However, the divergent elements are present in the population and may be observed in individual records.

Some of the seminarians were married, and others were single; they belonged to various denominations, and at the time the students' records were examined, some seminarians had dropped out to enter other vocations and others had failed academically. These observations led to a study of the factors that differentiate the married and single seminarian, and the items that account for the "drop-out," and the "failure" students. Each group was studied separately.

B. The Married and the Single Seminary Student

The ministry makes its most profound impression upon the home, and since the Protestant minister is usually expected to be a married minister, some attention is focused upon his marital status. While Americans are marrying at earlier ages than in previous years, and the number of married students attending graduate schools is increasing, marriage is not among the accomplishments that are considered as an attribute for the ministry at the time the applicant enters the seminary. In many instances,

marriage has been deferred during the college years, but the commitment on the part of the student to the values of the intellectual life and to the ministry does not preclude marriage at a later time, nor does it prevent marriage at an earlier time. The large number of married students in a seminary populations raises some question about their differences from the single students. The differences between the married and single students in age, personality and temperament, vocational interest, and scholastic aptitude may be observed by simply comparing the means and standard deviations of the two groups on the tests that have been given.

For the purpose of comparing married and single students, a block of one hundred and sixteen students, who had been tested with the complete battery of tests, was selected. There seventy-one married and forty-five single students. The age of the married students averaged 26.84 years and the single students averaged 23.2 years of age. The age range of married students was twenty to forty years and the single students from twenty to thirty-four years of age. The distribution of ages in both groups is positively skewed. The married and single students will be compared by observing their differences with the SCST norms that have been established for the various tests. The means and standard deviations on the MMPI test for married and single students and the MMPI norms for the SCST normative group

are shown in Table XLV.

TABLE XLV.

MEANS AND STANDARD DEVIATIONS ON THE MMPI FOR
MARRIED AND SINGLE SCST MALE STUDENTS AND
MMPI NORMS FOR SCST STUDENTS
(N-179)(N-71)(N-45)

MMPI Scales	SCST Norm Group	Means		Standard Deviations		
		SCST Married Men	SCST Single Men	SCST Norm Group	SCST Married Men	SCST Single Men
L	51.74	51.37	50.00	8.27	8.03	7.39
F	48.96	48.89	47.97	4.50	3.52	3.03
K	64.88	64.24	63.73	7.21	6.89	8.17
1 Hs	52.84	52.56	52.21	5.57	4.99	6.05
2 D	50.06	50.09	50.78	6.99	6.29	8.19
3 Hy	60.83	60.43	61.89	5.56	5.64	5.60
4 Pd	58.90	57.41	60.39	7.03	7.80	5.87
5 Mf	65.22	64.90	68.60	8.64	9.30	8.40
6 Pa	55.40	54.96	56.23	6.44	6.96	6.50
7 Pt	56.44	55.49	58.91	6.53	7.67	5.85
8 Sc	56.46	55.89	56.63	6.33	5.96	6.23
9 Ma	56.56	55.19	58.73	9.21	9.17	8.28
0 Si	43.86	44.33	44.13	6.08	6.58	6.96
Number	179	71	45	179	71	45

There are no differences in the MMPI scores of either the married or the single men from the SCST norms that are not due partially to chance, but there is a tendency for the scores of the single men to be consistently above the SCST norms on the clinical scales, and the scores of the married men to be slightly lower than the SCST norms, and in the direction of the norms for the general population. The differences between the MMPI scores of the single men and the scores of the married is largely in the degree of elevation of the scores, rather than in the configural pattern of personality that is seen in the normative population of SCST. However, there is a difference of over three points on the Pd, Mf, Pt, and Ma scales between MMPI scores of the single and the married men. The single men probably show some tensions from problems centering around family and sexual adjustment as indicated by higher Mf and Ma scores. The elevation of Pd and Pt scores may show that single men have greater worries and conflicts than married men arising from their standards on morality and intellectual performance, and the assumption of rather emotional aloofness from some personal problems.

The means and standard deviations on the GZTS for married and single students and the GZTS norms for the SCST normative group are shown in Table XLVI, page 264.

TABLE XLVI

MEANS AND STANDARD DEVIATIONS ON THE GZTS FOR
MARRIED AND SINGLE SCST MALE STUDENTS AND
GZTS NORMS FOR SCST STUDENTS

Temper- ament Trait	SCST Norma- tive Gp.	Means		Standard Deviations		
		SCST Married Men	SCST Single Men	SCST Norma- tive Gp.	SCST Married Men	SCST Single Men
G	18.23	18.37	18.45	5.05	5.13	5.06
R	19.59	20.21	19.65	4.05	3.64	4.37
A	19.08	18.56	18.76	4.92	5.39	4.73
S	22.63	22.03	23.63	5.17	5.00	4.43
E	22.17	22.74	21.34	5.07	4.41	5.46
O	21.91	22.54	21.04	4.08	3.72	3.86
F	20.14	20.56	19.63	4.45	4.40	4.07
T	21.45	21.76	21.95	3.94	4.05	3.80
P	22.45	23.00	22.86	4.74	4.93	4.43
M	19.52	18.95	19.96	3.52	3.03	4.15
Number 221		74	45	221	71	45

The difference in the scores on the temperament scales of the GZTS of the married and single groups from the SCST normative group may be entirely due to chance, and there may be no difference. However, single men show a tendency toward less restraint, objectivity, and emotional stability than is apparent in the scores of the married men, although the difference is not great enough to discriminate the two groups. If the married men are actually more restrained, objective, and emotionally stable than the single men, the difference may be reflected in better academic performance as seen in their grades. The group of single men show more sociability than either the married men or general SCST population. This is an expected difference in an unmarried group, and is probably their movement in the direction of solving some of the emotional problems shown on the MMPI scale. The means and standard deviations on the SVIB for married and single students of SCST and the SVIB norms for SCST normative group are shown in Table XLVII, pages 266, 267 and 268.

The differences between the scores of the married and single students in SCST on the SVIB are strongly affected by chance, as is indicated by the standard deviations in the distribution of scores. However, both groups were exposed to many of the same chance factors, so some pertinent observations can be drawn from the data. Both the married

TABLE XLVII

MEANS AND STANDARD DEVIATIONS ON THE SVIB FOR
MARRIED AND SINGLE SCST MALE STUDENTS AND
THE SVIB NORMS FOR SCST STUDENTS
(N-116) (N-58) (N-34)

Occupations	SCST Norm	Means		SCST Norm	Standard Deviations	
		SCST Married	SCST Single		SCST Married	SCST Single
Artist	26.94	25.87	28.57	9.06	8.64	9.54
Psychologist	39.06 ^o	38.21 ^o	40.35 [#]	9.34	9.39	9.20
Architect	25.55	25.09	26.26	10.66	10.74	10.61
Physician	38.16 ^o	37.37 ^o	39.35 ^o	12.33	12.56	12.01
Psychiatrist	43.52 [#]	42.92 [#]	44.41 [#]	9.42	9.32	9.61
Osteopath	38.41 ^o	38.17 ^o	38.76 ^o	10.23	10.59	9.76
Dentist	25.91	24.71	25.22	9.88	10.52	8.91
Veterinary	21.44	21.40	21.50	9.09	9.27	8.92
Physicist	14.87	15.03	14.63	12.22	12.61	11.74
Chemist	23.97	24.36	23.39	12.56	13.50	11.10
Mathematician	21.84	22.01	21.59	10.12	10.22	10.06
Engineer	21.37	22.46	19.72	12.05	12.62	11.04
Production Manager	31.28	32.54	29.35	8.24	8.65	7.24
Farmer	28.09	28.79	27.02	8.75	8.70	8.82
Carpenter	18.94	19.94	17.11	10.93	11.66	9.66

*Primary Interests

#Secondary Interests

^oTertiary Interests

TABLE XLVII(continued)

Occupations	SCST Norm	Means		SCST Norm	Standard Deviations	
		SCST Married	SCST Single		SCST Married	SCST Single
Printer	33.56	34.00	32.89	8.61	8.59	8.69
Math.Sci.Teach	36.80 ^o	37.64 ^o	35.50 ^o	9.82	9.33	10.49
Policeman	31.59	32.49	30.24	7.63	7.63	7.55
Forest Svc.	23.70	24.00	23.24	10.72	10.85	10.60
Army Officer	29.48	30.64	27.72	11.93	12.20	11.42
Aviator	26.63	27.10	25.91	11.19	11.86	10.18
YMCA Phys.Dir.	42.49 [#]	42.47 [#]	42.52 [#]	10.17	9.08	11.73
Personnel Mgr.	41.59 [#]	42.06 [#]	40.87 [#]	9.93	9.27	10.93
Public Adm.	48.04 [*]	48.10 [*]	47.96 [*]	8.16	8.11	8.33
Voc. Counslr.	48.68 [*]	48.36 [*]	49.18 [*]	9.09	8.07	10.52
YMCA Sectry.	41.31 [#]	40.87 [#]	42.00 [#]	10.84	10.10	11.96
Soc. Sci. Tchr	45.16 [*]	44.86 [#]	45.61 [*]	10.70	10.40	11.25
City Sch.Supt.	41.21 [#]	40.67 [#]	42.02 [#]	9.26	8.77	10.02
Minister	44.09 [#]	43.34 [#]	45.24 [*]	10.33	9.78	11.12
Musician	43.21 [#]	41.99 [#]	45.07 [*]	9.92	9.73	10.03
CPA Partner	27.19	26.67	27.98	9.50	9.30	9.84
Senior CPA	33.87	34.84	32.39	9.60	9.40	9.81
Jr. Account.	25.32	27.10	22.37	10.18	9.57	10.52
Office Worker	31.47	32.44	30.00	9.96	9.40	10.69

TABLE XLVII (continued)

Occupations	SCST Norm	Means	SCST Single	SCST Norm	Standard Deviations	
		SCST Married			SCST Married	SCST Single
Purchasing Agt	21.14	22.27	20.11	8.19	7.35	9.26
Banker	26.53	27.04	25.76	8.32	8.45	8.15
Mortician	33.34	32.91	34.00	9.17	8.75	9.83
Pharmacist	30.40	29.76	31.37	7.11	6.82	7.49
Sales Mgr.	31.48	30.53	32.93	8.63	8.78	8.28
Rl. Estate Sls.	34.80	34.17	35.76 ^o	7.36	7.93	6.37
Lf. Ins. Slsmn	37.26 ^o	35.96 ^o	39.24 ^o	9.62	10.08	8.62
Advtsg. Man	36.30 ^o	34.93	38.39 ^o	7.11	7.07	6.71
Lawyer	37.15 ^o	35.97 ^o	38.93 ^o	8.55	8.73	8.04
Auth-Jrnlst.	33.96	32.89	35.59 ^o	7.45	7.33	7.42
President	28.45	28.34	28.61	8.63	8.45	8.98
Music Teacher	47.02*	46.41*	47.93*	10.54	9.59	11.89
Credit Mgr.	42.18 [#]	42.33 [#]	41.96 [#]	9.79	8.69	11.35
Occupatn. Level	56.19	55.93	56.59	6.78	6.17	7.66
Masc.-Fem.	38.08	39.11	36.50	9.19	8.86	9.56
Spec. Level	50.40	50.21	50.67	6.92	7.09	6.70
Number	116	33	45	116	33	45

*Primary Interests - 45 to 65

[#]Secondary Interests - 40 to 45

^oTertiary Interests - 35 to 40

and the single students have the same primary, secondary, and tertiary interests. The single students have higher scores than the married students on most of the occupational interests at the level where these are primary, secondary, or tertiary. The scores of married students are consistently higher than the scores of single students on the technical, sub-professional technical and business detail occupational categories. None of the scores of married students on this variety of occupations approach the level of being like those who have succeeded in those occupations but higher scores may be interpreted as a degree of awareness of the interests of men in those occupations. The difference between married and single men at this level of occupational interest may be due to the fact that married students are older and have the added practical responsibility of supporting wives, and in some instances, families.

The means and standard deviations on the GRE for married and single students of SCST and the norms for the SCST normative Group are shown in Table XLVIII, page 270.

The married student shows greater facility in acquiring knowledge than the single student, as shown by higher scores on the verbal and quantitative aptitude tests. The married student also shows a greater mastery of materials in the areas of social science and natural science, than does the single student. The married and the single students have nearly the same scores on the humanities

TABLE XLVIII

MEANS AND STANDARD DEVIATIONS ON THE GRE
 FOR MARRIED AND SINGLE SCST MALE
 STUDENTS AND THE GRE NORMS FOR
 SCST STUDENTS
 (N-221) (N-58)
 (N-34)

GRE Tests	SCST Norm Group	Means	SCST Single Men	Standard Deviations		
		SCST Married Men		SCST Norm Group	SCST Married Men	SCST Single Men
Verbal	503.48	525.00	496.52	96.61	96.90	94.19
Quantitative	498.69	519.29	462.60	108.84	124.46	91.42
Social Science	509.91	529.29	514.13	95.79	96.27	94.74
Humanities	510.18	525.86	526.09	90.88	87.13	105.14
Natural Science	503.08	526.14	498.60	90.03	91.77	96.70
Number	221	71	45	221	71	45

test. The scores of both groups are above the normative level, which is probably because the frequency distribution of scores among the married and single students show less extreme high and low scores than in the total population. The scores of both groups are affected by chance, but there is some reasonable indication that married students show greater facility to acquire knowledge and greater mastery of essential materials in the particular areas of social science, humanities, and natural science, than single students. If this observation is valid, a higher score on the aptitude and achievement tests should be predictive of higher grades for married students.

The means and standard deviations of grade point averages for the married and single students of SCST, and the norms of the total SCST population will be shown in Table XLIX, page 272.

The higher scores seen on the GRE for married students reflected in Table XLVIII, page 270, seemed to predict that they would have higher grade point averages than single students. According to Table XLIX, the married students actually have higher college grade point averages at the end of the junior year than do the single students. Some of the difference between married and single students may be due to chance and to a difference in distribution of extreme high and low scores, but it is fair to assume that the married students do make higher grades than single

TABLE XLIX
 MEANS AND STANDARD DEVIATIONS OF GRADE POINT
 AVERAGES FOR MARRIED AND SING SCST
 STUDENTS AND THE SCST GRADE
 POINT AVERAGE NORMS

Grade Point Average	SCST Norm Group	Means	SCST Single Men	Standard Deviations		
		SCST Married Men		SCST Norm Group	SCST Married Men	SCST Single Men
College	2.69	2.77	2.62	.42	.39	.42
Junior Year	3.01	2.95	2.90	.48	.48	.63
Number	221	71	45	221	71	45

students. The single students show a greater increase in their junior grade point averages, over their college grade point averages than is shown by the married students. This difference may be due to considerable improvement in the mental health of the single students. Many of the differences between the single and married students are certainly due to the age differential and the greater experience and responsibility in the background of the married student.

C. The Drop-outs

The term drop-outs is not applied to the ministry in the popular sense of a student dropping out or failing to continue his academic work. A drop-out in this study will be defined as any individual who changes from the ministry to another profession, whether the change is during the seminary period or at a later time. The term is inadequate in that it implies that an individual is a failure or has come to a recognition that he was ineffective in some way as a clergyman. Actually, if a man drops out of theological education, or from the active practice of his profession, to enter another vocation, it is probably the man's own belated recognition that his motives and interests do not lie in this direction after all. However, we are interested in the factors which influence a man to become a clergyman to the point of sustaining him through stress and doubt. There are some factors that are related to the

initial decision to enter the ministry, and it is important for the counsellor to recognize these factors if there is anything in the tests of personality, temperament, interests, aptitude, and achievement that will discriminate the persisting minister from other students.

Nine records of male students were separated for special study since these students had changed to other vocational interests. In some cases the change occurred during the period of seminary experience, while others changed to other vocations after being in the ministry. The number of records is inadequate to make any generalizations, but it may be possible to say that these nine students in SCST were different from other students in certain ways. The means and standard deviations on all tests and measurements of these students will be compared with all other students in SCST.

The means and standard deviations on the MMPI for drop-outs and the MMPI norms for SCST students will be shown in Table L, page 275.

The scores of drop-outs tend in the direction of the general population on all scales except the L, and Sc scales. The differences may be interpreted to indicate that the persisting minister is characterized and sustained in his ministry by a certain elevation, characteristic of the ministry, from the general population as shown on the

TABLE III
 MEANS AND STANDARD DEVIATIONS ON THE MMPI
 FOR DROP-OUTS AND THE MMPI NORMS
 FOR SCST STUDENTS
 (N-179)
 (N-9)

MMPI Scales	Means		Standard Deviations	
	SCST Norm Group	SCST Drop- outs	SCST Norm Group	SCST Drop- outs
L	51.74	52.67	8.27	11.95
F	48.96	49.22	4.50	3.93
K	64.88	64.22	7.21	7.29
Hs	52.84	51.78	5.57	5.65
D	50.06	51.11	6.99	7.93
Hy	60.83	60.67	5.56	6.44
Pd	58.90	55.44	7.03	11.35
Mf	65.22	59.89	8.64	9.80
Pa	55.40	52.78	6.44	8.38
Pt	56.44	53.33	6.53	8.83
Sc	56.46	57.33	6.33	8.83
Ma	56.56	54.00	9.21	8.62
Si	43.86	45.67	6.08	4.90
Number	179	9	179	9

MMPI scales and the drop-out leaves the ministry because he is more like the general population. The main points of digression on the L and Sc scales would indicate that the drop-out has some greater tendency, than other SCST students to cover up and deny undesirable personal faults, to describe themselves as impulsive, conscientious, worrying, and individualistic. The peak on the psychotic tetrad may indicate that the drop-out's choice of the ministry as a vocation is his way of meeting personality problems that are not apparent to other people, since the schizophrenic's evaluation of himself does not conform to the way others see him. The potential drop-out may be recognized by an elevation on the Sc scale, but it would be difficult to determine whether an individual seeking to enter the ministry would change his decision to be a minister if his schizophrenic tendencies were resolved, or would become a stronger minister. The MMPI does not, to any great extent, differentiate between those who may persist and those who may change their choice of the ministry as a career. It seems evident that the usefulness of the MMPI is in clinical rather than in vocational diagnosis of the person with changing interests.

The means and standard deviations on the GZTS for drop-outs and the GZTS norms for SCST students are shown in Table LI, page 277.

TABLE LI
 MEANS AND STANDARD DEVIATIONS ON THE GZTS FOR
 DROP-OUTS AND THE GZTS NORMS FOR
 SCST STUDENTS
 (N-221)
 (N-9)

Temperament Scales	Means	Standard Deviations		
	SCST Norm Group	SCST Drop-outs	SCST Norm Group	SCST Drop-outs
General Activity (G)	18.23	17.44	5.05	7.38
Restraint (R)	19.59	20.00	4.04	4.24
Ascendance (A)	19.08	17.78	4.92	6.18
Sociability (S)	22.63	20.33	5.17	4.92
Emotional Stability (E)	22.17	21.56	5.07	4.95
Objectivity (O)	21.91	22.44	4.08	3.68
Friendliness (F)	20.14	20.22	4.45	2.33
Thoughtfulness (T)	21.45	20.00	3.94	4.03
Person. Relations (P)	22.45	22.11	4.74	4.88
Masculinity (M)	19.52	20.11	3.52	2.67
Number	221	9	221	9

The drop-out is like the SCST normative students and exceed them only in the high point scores on friendliness and objectivity, factors that seem to be a characteristic temperament of the minister. On other temperament scales the drop-out is more like the general population and is even less active than other people. The greatest differences from other seminary students are in the lesser degree of general activity, ascendance, sociability, emotional stability, and thoughtfulness. It is possible that these are essential temperaments in sustaining the minister in his vocation, and are deficient in the minister who changes his vocation.

The means and standard deviations on the SVIB of primary and secondary interests for drop-outs and the normative group of SCST students will be shown in Table LII, page 279.

The occupational interest scores of the drop-outs are consistently lower than those of the more persistent SCST students. The highest interest scores of the drop-out are on the music teacher, vocational counsellor, and musician occupations. The drop-outs interest in the ministry is near the tertiary level, so it is reasonable to assume that the decision to enter the ministry is not maintained by a strong supporting interest. The occupational interest level is indicative of the aspiration level and represents the degree to which the individual's total background

TABLE LII
 MEANS AND STANDARD DEVIATIONS ON THE SVIB
 OF PRIMARY AND SECONDARY INTERESTS FOR
 DROP-OUTS AND THE NORMATIVE GROUP OF
 SCST STUDENTS
 (N-116) (N-9)

Interest Scales	Means		Standard Deviations	
	SCST Norm Group	SCST Drop- outs	SCST Norm Group	SCST Drop- outs
Vocational Counsellor	48.68	45.67	9.09	9.15
Public Administrator	48.04	42.44	8.16	10.84
Music Teacher	47.02	47.22	10.54	11.19
Social Science Teacher	45.16	43.44	10.70	10.09
Minister	44.09	40.67	10.33	9.49
Psychiatrist	43.52	42.00	9.42	12.09
Musician	43.21	45.22	9.92	10.56
YMCA Phys. Director	42.49	40.44	10.17	12.34
Credit Manager	42.18	39.33	9.79	14.90
Personnel Manager	41.59	36.44	9.93	11.33
YMCA Secretary	41.31	40.22	10.84	12.99
City School Supt.	41.21	39.11	9.26	9.98
Number	116	9	116	9

has prepared him to seek the prestige and discharge the responsibilities that are attached to the vocation he desires to enter. A person with a low level of occupational interest is likely to lack the motivation to remain in the ministry, and will change to another related vocation.

The means and standard deviations on the GRE for drop-outs and the GRE norms for SCST students are shown in Table LIII, page 281.

The scores of the drop-out on all the tests of the GRE are consistently higher than the scores of the SCST normative group. The highest score of the drop-out is on the humanities achievement test. The drop-out has a level of aptitude and achievement that justifies his choice of the ministry as an area of interest where he might succeed, and that would be a support to him in his area of changed interest.

The means and standard deviations of grade point averages for drop-outs and SCST students are shown in Table LIV, page 282.

The college grade point average of the drop-out and the other SCST students are near the same level at the time the students enter the seminary. At the end of the first year, the increase in grade-point average of the drop-out does not equal that of other students. It was not possible to secure the grade point average of drop-out students at the time of graduation, since some of the students had

TABLE LIII
 MEANS AND STANDARD DEVIATIONS ON THE GRE
 FOR DROP-OUTS AND THE GRE NORMS FOR
 SCST STUDENTS
 (N-221) (N-9)

GRE Tests	Means		Standard Deviations	
	SCST Norm Group	SCST Drop- outs	SCST Norm Group	SCST Drop- outs
Verbal	503.48	534.44	96.61	105.49
Quantitative	498.69	547.78	108.84	107.90
Social Science	509.91	520.00	95.79	76.65
Humanities	510.18	570.00	90.88	104.28
Natural Science	503.08	527.78	90.03	98.59
Number	221	9	221	9

TABLE LIV
 MEANS AND STANDARD DEVIATIONS OF GRADE POINT
 AVERAGES FOR DROP OUTS AND SCST NORM GROUP
 (N-221) (N-9)

Grade Point Averages	SCST Norm Group	Means	Standard Deviations	
		SCST Drop- outs	SCST Norm Group	SCST Drop- outs
College	2.69	2.68	.42	.43
Junior Year	3.01	2.82	.48	.39
Number	221	9	221	9

dropped out before graduation from the seminary, but it is possible that the grade point averages of students whose interests have changed would increase after the change in vocations.

D. The Failures

It seems that the admissions committee of SCST has done an excellent job, inasmuch as only 2.71 per cent of the students who are admitted to the seminary are dropped because of academic failure. Only six student records were marked as failures among the 221 male students who have enrolled in the seminary between 1957 and 1963. It is impossible to regard six students as an adequate number of students in any category to provide data of any statistical value, but it may be useful to see what characteristics are evident among these six students who failed.

The means and standard deviations on all tests and measurements of these students will be compared with all other students in SCST, in order to observe any clues as to any factors that might discriminate the failing student.

The means and standard deviation on the MMPI for failures and the MMPI norms for SCST students will be shown in Table LV, page 284.

The scores of failures tend in the direction of the general population on all scales except the K, Depression, Hysteria, paranoia, and Social Introversion scales. The

TABLE LV.
 MEANS AND STANDARD DEVIATIONS ON THE MMPI
 FOR FAILURES AND THE MMPI NORMS
 FOR SCST STUDENTS
 (N-179)
 (N-6)

MMPI Scales	Means		Standard Deviations	
	SCST Norm Group	SCST Fail- ures	SCST Norm Group	SCST Fail- ures
L	51.74	54.17	8.27	3.92
F	48.96	47.33	4.50	2.73
K	64.88	67.50	7.21	6.19
Hs	52.84	52.17	5.57	3.66
D	50.06	45.17	6.99	5.04
Hy	60.83	61.17	5.56	4.12
Pd	58.90	58.83	7.03	8.80
Mf	65.22	62.83	8.64	9.09
Pa	55.40	56.00	6.44	6.29
Pt	56.44	50.67	6.53	6.77
Sc	56.46	53.83	6.33	3.60
Ma	56.56	53.83	9.21	6.94
Si	43.86	39.00	6.08	3.03
Number	179	6	179	6

differences of the failures from the successful students may be interpreted in terms of some greater defensiveness and a degree of social extroversion and elation that seems to indicate that the failure students tend to deny any awareness of problems. The failure student shows a slightly higher level of hysteria and paranoia than other students, but this is inadequate to show a difference. The most distinguishing mark of the failure student is the very low scores on the Depression and Social Introversion scales, scores which may indicate that these students are not sufficiently involved in the academic situation to make good grades.

The means and standard deviations on the GZTS for failures and the GZTS norms for SCST students are shown in Table LVI, page 286.

The scores of failure students show some elevation over the scores of other students except lower scores on the Friendliness and Restraint scales. The differences between failures and successful students are hardly adequate to distinguish the failure student, but as one would expect, the happy-go-lucky, carefree, impulsive individual (as indicated by a lower R score) would not make as good grades as the more serious and restrained one.

The means and standard deviations on the SVIB primary and secondary interests for failures and the normative group of SCST students will be shown in Table LVII, page 287.

TABLE LVI
 MEANS AND STANDARD DEVIATIONS ON THE GZTS FOR
 FAILURES AND THE GZTS NORMS FOR
 SCST STUDENTS
 (N-221)
 (N-6)

Temperament Scales		<u>Means</u>		<u>Standard Deviations</u>	
		SCST Norm Group	SCST Failures	SCST Norm Group	SCST Failures
General Activity	(G)	18.23	19.83	5.05	5.34
Restraint	(R)	19.59	16.33	4.04	5.92
Ascendance	(A)	19.08	23/50	4.92	3.27
Sociability	(S)	22.63	24.33	5.17	1.03
Emotional Stability	(E)	22.17	23.50	5.07	3.51
Objectivity	(O)	21.91	23.17	4.08	2.14
Friendliness	(F)	20.14	18.67	4.45	4.27
Thoughtfulness	(T)	21.45	21.83	3.94	5.78
Person. Relations	(P)	22.45	24.00	4.74	5.18
Masculinity	(M)	19.52	19.33	3.52	1.75
Number		221	6	221	6

TABLE LVII
 MEANS AND STANDARD DEVIATIONS ON THE SVIB
 OF PRIMARY AND SECONDARY INTERESTS FOR
 FAILURES AND THE NORMATIVE GROUP OF
 SCST STUDENTS
 (N-116) (N-6)

Interest Scales	<u>Means</u>		<u>Standard Deviations</u>	
	SCST Norm Group	SCST Fail- ures	SCST Norm Group	SCST Fail- ures
Vocational Counsellor	48.68	51.33	9.09	7.97
Public Administrator	48.04	48.67	8.16	7.97
Music Teacher	47.02	48.33	10.54	9.65
Social Science Teacher	45.16	49.33	10.70	11.52
Minister	44.09	41.83	10.33	10.48
Psychiatrist	43.52	43.00	9.42	10.28
Musician	43.21	43.00	9.92	9.12
YMCA Phys. Dir.	42.49	47.50	10.17	8.69
Credit Manager	42.18	39.33	9.79	9.33
Personnel Manager	41.59	43.00	9.93	11.64
YMCA Secretary	41.31	40.83	10.84	11.99
City School Supt.	41.21	42.17	9.26	7.17
Number	116	6	116	6

The scores of failure students tend to be equal to or greater than the scores of other students on all the scales except the occupations of minister and credit manager. The distribution of scores on the minister scale are about the same with each group, so it may be assumed that the failure student has less interest in the ministry than does the successful student.

The means and standard deviations on the GRE for failures and the GRE norms for SCST students are shown in Table LVIII, page 289.

The mean scores of failure students on both aptitude and achievement scores are so much lower than the normative scores of SCST students that the student who is prone to failure is readily distinguished, and would not be admitted as a graduate student unless there were other factors that indicated he was strongly motivated.

The means and standard deviations of grade point averages for failures and SCST students are shown in Table LIX, page 290.

The college grade point average of the students who failed was only slightly above the minimum level at the time they were admitted, and the probability of maintaining passing grades would seem to be dependent on the weight of other factors.

TABLE LVIII

MEANS AND STANDARD DEVIATIONS ON THE GRE
FOR FAILURES AND THE GRE NORMS FOR
SCST STUDENTS
(N-221) (N-6)

GRE Tests	<u>Means</u>		<u>Standard Deviations</u>	
	SCST Norm Group	SCST Fail- ures	SCST Norm Group	SCST Fail- ures
Verbal	503.48	415.00	96.61	101.14
Quantitative	498.69	376.67	108.84	62.50
Social Science	509.91	470.00	95.79	83.90
Humanities	510.18	442.00	90.88	87.04
Natural Science	503.08	433.33	90.03	83.11
Number	221	6	221	6

TABLE LIX

MEANS AND STANDARD DEVIATIONS OF GRADE POINT
AVERAGES FOR FAILURES AND SCST NORM GROUP
(N-221) (N-6)

Grade Point Averages	<u>Means</u>		<u>Standard Deviations</u>	
	SCST Norm Group	SCST Fail- ures	SCST Norm Group	SCST Fail- ures
College	2.69	2.37	.42	.42
Junior Year	3.01	1.67	.48	.38
Number	221	6	221	6

E. Summary

The seminary population is actually a homonomous group as the result of selective processes, and the differences that are observed are more between individuals than between groups. The diverse factors seen among married and single students, and in students who change their professional interests, or drop out, and the students who fail are studied in this chapter.

The elevation of the MMPI scores on the Pd, Mf, Pt, and Ma scales is noticeably higher among single students than among married students. This difference may indicate that the single seminary students have some unresolved problems centering around family and sexual adjustment. The single students may also have greater worries and conflicts arising from their standards of morality and intellectual performance, and from the assumption of emotional aloofness from some emotional problems.

The GZTS shows that single students have some tendency toward less restraint, objectivity and emotional stability than married men. This tendency may mean that single students will show poorer academic performance. However, the single student shows more sociability than do married men, a fact which may be the single student's way of solving the emotional conflicts implied in higher MMPI scores.

The single students have a higher level of interest in the primary, secondary, and tertiary occupations that are related to the ministry than do married students. However, the married student has greater familiarity with the interests of men in other occupations than do single men, a fact which may be because the married man is older and more experienced.

The married students show greater facility to acquire knowledge and greater mastery of materials in the areas of social science, humanities, and natural science than do single students, and it may be predicted that married students will make higher grades.

The prediction of higher grades for married students, based on their higher GRE scores, is justified by their grade point average at the end of their first year in the seminary. However, the single students showed a greater increase in their grade point average over their college grade point average, an increase which may reflect an improvement in their mental health during the year, or it may be because of the higher motivation indicated in their SVIB scores.

The drop-out shows a peak on the Sc scale of the psychotic tetrad which may indicate that the potential drop-out is turning to the ministry as his way of meeting personality problems that are not apparent to other people, since the schizophrenic's evaluation of himself does not

conform to the way others see him.

The drop-out is more like the general population in his temperament, a similarity which may mean that there is a characteristic temperament that sustains men in the ministry.

The occupational interest level of drop-outs on all occupations related to the ministry are lower than the scores of other seminary students. The level of interest in the ministry is near the tertiary level, and may mean that the drop-out would be more contented in another related vocation.

The drop-out student shows a higher level of aptitude and achievement that is apparent among his seminary peers, a level which should afford him good prospects of adjustment and success in a related occupation. His college grade point average is equal to that of other seminary students at the time he enters the seminary, but after a year the increase in his grade level has not equalled that of the other students. This fact may reflect the lower level of his interest in the ministry and a growing awareness of a greater interest in another vocation.

The failure shows a very low score on the Depression and Social Introversion scale on the MMPI, perhaps indicating that the potential failure is not sufficiently involved in the academic situation to make good grades. This trait of non-involvement and social extroversion is

supported by an innate temperament of friendliness that is characteristic of the minister, and a lower level of restraint that is shown on the GZIS test. The happy-go-lucky, carefree, impulsive, extroverted individual would not make as good grades as would the more serious and restrained

The failure student has occupational interests that are equal to and greater than the scores of other students on most occupations related to the ministry but his occupational interest is lower in the ministry. The interests of the failure student are among the Welfare group of occupations, and the failing student may succeed in an occupation that is more suited to his capacities and his total interests.

The aptitude and achievement scores of the failure are much lower than the scores of other seminary students. The college grade point average of the students who have failed is slightly above the minimum level for entrance, so failure may be the actuarial result of some measured and some unmeasured factors that end in low achievement, even when some students with no greater capacity are able to succeed.

A thorough study of drop-outs and failures would require some retests and information from a period closer to the time when the drop-out or failure occurred. Neither the drop-out or the failure student would likely consent to a retest, and information about themselves would be more

defensive than objective. The result is that drop-out and failures must be compared with other seminary students on the basis of data that is available, rather than on more significant variables.

CHAPTER XII

SUMMARY AND CONCLUSION

The aim of testing in a seminary should be to provide vital information for assisting the student to use his capacities, cultivate his motivations, and develop the traits of his personality in the direction of effective service in the church. Most students see the process of testing as an obstacle course that must be run before being admitted to the seminary instead of a means for personalizing his seminary education. The task of this dissertation has been to survey the test data that have come from seven years of seminary experience in admitting students who aspire to the ministry. The purpose of the study has been to observe the norms that have been derived from the measurement of many individuals who have been admitted as seminary students, as they represent the potentialities and weaknesses of the ministry about to assume the spiritual leadership. The results of such research are bound to be statistical in form, but reliable information about groups of seminarians should be invaluable in counselling the individual student. The development of student norms is also a basic requirement for further

research into questions about the effectiveness of the minister in the parish, and the ways a seminary may meet the needs of the student who aspires to leadership in the church.

The battery of tests used in SCST are the MMPI, GZTS, SVIB, and GRE. Norms for all of these tests were established and special studies were made of one seminary class by a retest with the MMPI, and of the married, single, drop-out, and failure students. In the case of all tests it was apparent that norms should be established for each seminary, since ministers differ from the general population, and all seminaries vary in their constituency and emphases.

The norms for the SCST male seminarian on the MMPI showed high scores on the Mf, Ma, Pd, Sc, Pt, and Pa scales. This result suggests that the SCST seminary males tend toward greater femininity in their interests, are more active, and worry more than do men in general. The differences between the seminary male and female are less in the shape of the MMPI profile than in the elevation of the overall pattern. The configuration in the mean patterns for the two groups are essentially the same, the difference being that the female profile is considerably lower. The exceptions are the Ma scale, on which the male and female scores are very close; and on the Mf scale, where the seminary females are less masculine than the males are feminine in their interests as compared with the general population.

In a comparison of students from two seminary groups and from two separate denominations, there was a characteristic profile for the seminarian that differed very little from one group to another, in spite of considerable heterogeneity.

The GZTS test showed that the SCST male seminarian is characteristically a friendly person. This trait is supported by other traits which indicate that the seminarian tends to meet his own needs and achieve his objectives by the force of group social action, rather than by arduous effort on his own part. The over-all modality of the seminarian is his high regard for people and his readiness to interact with them. The low level of general activity may be a mode of activity that is derived from habitually working with groups, rather than attempting individual projects. The low level of masculinity indicates that the seminarian may find it easier to be accepted and understood by women than by men, since this scale is designed to measure interests and emotional qualities, rather than sexual tendencies. A comparison of the profile of SCST male seminarians with that of the population of SCST revealed no significant differences, and seemed to indicate a profile that is characteristic of seminarians.

The norms of the SCST seminarian on the SVIB places the seminarian in the middle of a group of related creative

social welfare occupations, indicating that his interests are like those of several groups of professional people successfully engaged in their work. The SCST seminarian and the seminarians of two other comparable seminary groups had similar primary and secondary interests, although the ministry is not the occupation in which they received the highest score. While the pattern of occupational interests among seminarians seemed to indicate the validity of what was being tested by the test, it may be that the scale needs to be revised in terms of ministers in the contemporary scene. The pattern of interests among three groups of women were difficult to recognize. The primary interests of women ranged from such unrelated occupations as social worker and stenographer-secretary to housewife and librarian, which seems to reflect an effort to achieve a career and retain feminine interests at the same time.

The SCST male and female seminarian show greater ability in verbal reasoning and reading comprehension on the Verbal test than in the arithmetic type of reasoning in the Quantitative test of the GRE. Also, the scores of SCST students tend to be higher on the Social Science and Humanities test than on the Natural Science test. Higher scores on Verbal reasoning, Social Science, and the Humanities tests may be a discriminating factor in the selection of seminary students. The scores on these tests are valid

measurements of the individual student in five specific abilities that are particularly related to the criteria of academic performance in graduate education. These scores may not be anything more than a measure of the ability to get grades, and need to be related to such pertinent factors as the college record in major subjects, personality adjustment, and interest factors.

In a retest of a seminary class on the MMPI at the time of graduation, there was a general heightening of seven scales (K, Hs, Hy, Pd, Pa, Pt, and Sc), and a lowering of two scales (Mf and Ma). The higher K score may be a defense against the general heightening of neurotic and psychotic tendencies. It would appear that three years in a seminary were more disturbing than maturing, if the tendencies that have been mentioned were heightened to any appreciable degree. On the positive side of the experience, it is noted that the graduating student has not been shaken by the conflicts and doubts that may have been a part of the academic struggle (D - no change). He has also become more masculine, psychologically, a desirable outcome at a time when the masculine interests of religion are encouraged (Mf - lower). The overproductivity of thought and action that seemed apparent when the students enrolled has changed to the controlled action of an individual who is moderately extroverted and more restrained.

In a study of the diversity in a seminary, a study

was made of married and single students, and the contributing factors in the make up of the drop-out and the failure that might discriminate them at the time of their enrollment.

The single students tended to have higher scores on the Pd, Mf, Pt, and Ma scales of the MMPI than did married students. This difference may indicate that the single student has some unresolved problems centering around family and sexual adjustment. The higher scores would show that he may also have some conflicts arising from his standards of morality and intellectual performance and an aloofness from his emotional problems.

The single student also shows less restraint, objectivity, and emotional stability on the GZTS than do married men. The single student also shows higher level of sociability which is probably an approach to resolving the emotional conflicts implied in the MMPI scores.

The single man has a higher interest score than do married men on the primary and secondary occupational interest scales of the SVIB that are related to the ministry. The greater motivation that is implied by higher interest scores on the GRE scales, indicating ability to acquire knowledge and mastery of materials in the areas of social science, humanities, and natural science. It may be predicted that single students will make poorer grades than married students.

The prediction of poorer grades for single students is justified at the end of the first seminary year in slightly lower grades than those achieved by married students. However, the increase in grade point average over the college grade point average was greater for single students. Actually the single students may be able to achieve above their predicted level because of strong motivation or because some of their emotional conflicts are being resolved. Most of the differences are probably due to the age differential, and the greater experience and responsibility of the married student.

The drop-out shows a peak on the Sc scale of the MMPI psychotic tetrad which may indicate that the choice of the ministry is his way of meeting problems that are not apparent to other people nor to him at the time he enrolls in the seminary. The drop-out is more like the general population in his temperament except for a trait of friendliness that is comparable to others in the ministry.

The occupational interest level of drop-outs on the scale for minister is lower than the scores of other seminary students. The drop-out shows higher aptitude and greater achievement potential than other students. At the time the drop-out enters the seminary, his grade point average is equal to that of other students, but at the end of a year he has failed to equal his peers. His lack of motivation has not enabled him to maintain his achievement

potential, and this may be a part of the process that leads him to become aware of a greater interest in another vocation.

The SCST failure student shows a low score on the Depression and Social Introversion scales of the MMPI. In combination with other scales it is possible that he is not involved enough in the academic situation to make passing grades. He is also below his peers in restraint, and with his innate friendliness, the failure student is not likely to maintain the self-discipline that is necessary for academic success. His occupational interest scores are equal to and greater than the scores of other students on the occupations related to the ministry, but the ministry is an exception. His aptitude and achievement scores are lower than other students, but his level of motivation is high enough that it is always a possibility that such a student can exceed his apparent potential. The college grade point average of the SCST failure student is barely above the minimum for entrance, so it is possible that the struggle to get passing grades is not of recent origin.

Upon the termination of several months work in the analysis of test records there are some concluding statements that need to be made about the basic concepts that underlie testing, the value of the tests, and the use of tests in meeting the needs of students.

The use of tests in education began in an effort

among educators to personalize education. Higher education had swung from the early period of the college when the salvation of the students' soul was discussed as often as the liberation of his mind to the other extreme of impersonalism that accompanied the rise of science and the new technology. During the expansion of education in America the student became the forgotten man. In the effort to bring the personal touch to education counselors began to appear and along with them came all kinds of tests. The tests were intended to aid the counselor in integrating the program of education to the needs of students.

The theory of testing was dominated by the prevailing scientific dynamic views of the times and the conception of the nature of man was that he is a composite of part functions. Testing was developed and it operated on the theory that the total human being could be sufficiently understood if only we had an inclusive catalogue of his parts. The analysis of personality was directed toward describing such dynamic forces as instincts, habits, traits, interests, temperaments, tendencies, and capacities. These personality factors were sometimes separated into units and at other times they were associated in syndromes, gathered into patterns, and described as processes. The tests that were developed to measure these identifiable parts of personality seemed to assume that these units are interchangeable and that human behavior could be understood in terms

of statistical frequency. Every effort to find the basic subperson unit of behavior has been vain, and the search still continues for the variable that is unmeasured.

It has been tempting for psychologists to build new tests and analyze people as if they were chemical compounds. The number of tests and the use of tests has increased to the point that education is in danger of being mechanized instead of personalized, and the student is still kept at a distance. Bugental¹ has protested the concepts of the nature of man upon which much of testing activity is based and refers to the works of James, Allport, Cantrill, May, Maslow, Fromm, and Rogers in support of a process conception of the human being which proposes that man is the process that supersedes the sum of his part functions. Bugental says that psychology is the study of the whole human being, then results which are only true of people in groups are not truly psychological but more sociological. He observes that the science of physics, from which psychology has been modeled, has moved beyond mechanical causality and is giving attention to process and to the experimenter's interconnection with the experiment. He regards test information as knowledge about an individual, while the needed information is knowledge of the individual, which involves a knowing and relating, a being with, as opposed to

¹
A Bugental, pp. 563-67.

part-function information.

Bugental says test information is useful when the need is to treat people as objects, as representatives of classes, rather than as individuals. For administrative and research purposes test data often is essential, but for educational purposes a different kind of information is needed. Bugental's comments call attention to the need for tests that will provide the kind of data that can be related to the essential functions of the ministry and can operate broadly, flexibly and creatively so that it is capable of yielding pertinent predictive results. It may be that this kind of observations would be in qualitative language instead of ratings or probability estimates. There might be a different kind of data-interviews, projective tests, interactions with the subject, life histories, and the like, instead of objective tests and measurements.

Guilford² approaches the matter in a different way and emphasizes individual differences in personality and the processes of adjustment in the social environment, but he says that it is impossible to compare one "person-as-a whole" with another "person-as-a-whole." Persons are unique in many ways but they are also similar in some respects. Persons are known by their properties, and the abstraction of a single property from the totality of a person does not

²Guilford, Personality, p. 5.

destroy the person. Comparisons of individuals are commonly made in terms of one aspect at a time, or at least in a limited number of aspects. A person can be compared with another person, or a number of persons, but he is commonly compared with the norms of the population of which he is a member. This is the basis for developing tests, and when the reliability and validity of a test has been established it is capable of providing invaluable information about individuals and their contribution to the processes of interaction with other individuals. The differences between the views of Guilford and Bugental are relative. Actually, the two views have much in common. They are like the two sides of the same coin as each psychologist is concerned about the whole person in different ways, and both approaches can be made at the same time.

The Tests that are used in SCST have been selected wisely. Because the human personality is so complex, no test can completely discriminate a single trait without being affected by related traits, but the MMPI, GZTS, SVIB, and GRE are the best tests available for measuring what they claim to measure. It is important to remember what they measure, and to assume that they furnish a complete index to personality. It is probable that the measurement instruments will be of more use in screening out obvious misfits than in identifying those who have potential

effectiveness in the ministry. None of the tests correlate very well with each other or with any of the indexes of performance in seminary education, such as grades, dropping out, or failing. The GRE purports to measure the scholastic ability of a student in certain academic areas at the graduate level. The GRE scores correlate fairly high with grade point averages. This may be expected since the GRE does assess "test-taking ability" quite well and quite reliably, but there is some question whether this ability has any significance beyond that point. The college grade point average correlates very high with the grade point average at the time of graduation from the seminary so it is a good prediction that if a student has been a good student in college he will do well in seminary, if the data of other tests is normal.

The testing instruments are useful in screening out the students who should not enter the seminary program, but they are also valuable as a point of reference to measure the progress of the students. If education is to be personalized, it is essential that the student be responsibly involved in the change process. When a student cannot share the test results with the seminary counselor, he has reason to feel he is being manipulated and treated as a thing. The test norms that are established in this dissertation provide a means for the student to gain an

insight into his academic ability, personality patterns and measured motivation as compared with other SCST students. Other tests may be given that will help in making the seminary experience more meaningful. The tests that are taken and the relationship with the seminary counselor should provide a good testing ground in which more significant criteria for the ministry can be developed, and the student can share responsibly by asking himself, "Is this the vocation for which I am best suited; will I find happiness and self-fulfillment in the community of the church?"

Nomothetic norms imply that they represent what is "good" as a value judgment, but statistical frequency is not an adequate criteria for such evaluations. This is an inherent limitation of a nomothetic study. The foregoing does not obviate a quantitative approach to the study of a student's potential for an effective ministry. It does mean that one should employ an idiographic methodology as a complement to nomothetic investigations.³

It is recommended that the seminary continue its past practice of utilizing the findings of test results to help^α students to greater self-awareness of his idiosyncratic personality and to an evaluation of the ministry. In many cases it would be helpful to supplement guidance with the use of other tests, such as : Allport-Vernon Study of

³Allport, Pattern and Growth . . ., p. 9.

Values, Terman Concept Mastery, Wrenn Study Habits Inventory, Chapins Social Insight Test, Cline's motion picture test of social acuity, and the California Personality Inventory.⁴ These tests will, I trust, when used by the counselor in a way that the student can participate in the findings, lead further into unexplored areas as the attempt is made to comprehend and stimulate the orderly process by which the human personality grows through the influence of the interpersonal relationships that are a part of the every day life in a seminary.

⁴Gough.

APPENDICES

APPENDIX A

NOMOTHETIC DATA FORM

NO. _____ SEX _____ AGE _____ MARITAL STATUS _____

DEGREE OBJECTIVE _____ REGISTERED _____ GRADUATED _____
(year) (year)

TIME REQUIRED _____ DROPPED OUT _____ TRANSFERRED _____
(No. semesters)

GRADE POINT AVERAGES: COLLEGE _____ , SEMINARY _____

COLLEGE _____ DENOMINATION _____

MMPI (with all students)

Scales	L	F	K	Hs	D	Hy	Pd	Mf	Pa	Pt	Sc	Ma	Si
Raw Score	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

K to be added	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Raw Sc w/K	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

MMPI (Retake with seniors, 1963)

	L	F	K	Hs	D	Hy	Pd	Mf	Pa	Pt	Sc	Ma	Si
	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
			_____				_____			_____	_____	_____	_____
Raw Sc w/K			_____				_____			_____	_____	_____	_____

APPENDIX A (continued)

GUILFORD-ZIMMERMAN TEMPERAMENT SURVEY

Scales G R A S E O F T P M
 Scores _____

GRADUATE RECORD EXAMINATION

APTITUDE TESTS

Scores QUANTITATIVE _____ VERBAL _____

AREA TESTS

Scores SOCIAL SCIENCE _____ HUMANIITIES _____
 NATURAL SCIENCE _____

STRONG VOCATIONAL INTEREST BLANK

GROUP	OCCUPATION	RAW SCORE	GROUP	OCCUPATION	RAW SCORE
I	Artist		V	YMCA Secretary	
	Psychologist(rev)			Soc. Sci. Teacher	
	Architect			City School Supt.	
	Physician (rev)			Minister	
	Psychiatrist		VI	Musician (perform)	
	Osteopath			Music Teacher	

APPENDIX A (continued)

(SVIB) <u>continued</u>					
GROUP	OCCUPATION	RAW SCORE	GROUP	OCCUPATION	RAW SCORE
I	Dentist		VII	CPA Partner	
	Veterinarian		VIII	Senior CPA	
II	Physicist			Junior Accountant	
	Chemist			Credit Manager	
	Mathematician			Office Worker	
	Engineer			Purchasing Agent	
III	Production Manager			Banker	
IV	Farmer			Mortician	
	Carpenter			Pharmacist	
	Printer		IX	Sales Manager	
	Math.Sci. Teacher			Real Estate Salesman	
	Policeman			Life Insurance Salesman	
	Forest Service		X	Advertising Man	
	Army Officer			Lawyer	
	Aviator			Author-Journalist	
V	YMCA Phys. Dir.		XI	President	
	Personnel Manager		OL	Occupational Level	
	Public Administrator		MF	Masc.-Fem.	
	Vocational Counselor		SL	Specialization Level	

APPENDIX B

A BRIEF DESCRIPTION OF THE MINNESOTA
MULTIPHASIC INVENTORY SCALES1. The Lie Score (L)

The Lie score affords a measure of the degree to which the subject may be attempting to falsify his score by always choosing the response which places him in the most acceptable light. A high score does not invalidate the test but the score should be carefully evaluated.

2. The Validity Score (F)

The Validity score serves as a check on the validity of the whole record. If the F score is high, the other scales are likely to be invalid either because the subject was careless or unable to comprehend the items. A score of seventy or above renders the test invalid except for psychotic subjects.

3. The Test Attitude Score (K)

The test-taking attitude score measures what may appear as personal defensiveness or as an exhibition of personal defects and troubles. A high score indicates

that the subject denies personal inadequacies, tendencies toward mental disorder, and any trouble in controlling himself, particularly in regard to temper, but also withholds criticism of others. Low scores may indicate an urge to display personal troubles and confess weaknesses.

4. The Hypochondriasis Scale (Hs)

The Hs Score is a measure of overconcern about bodily functions. Persons with high scores are unduly worried over their health and may be immature in their approach to adult problems. Normal persons with high Hs scores are judged to be dull, unambitious and stubborn. They may also show a dutiful attitude toward their parents and exhibit a general looseness in their posture and demeanor. Among people with scores above the normal range a person may reflect a selfish, narcissistic view of the world and be observed as dissatisfied and demanding in their behavior. A high score on the Hs scale minimizes the likelihood of psychosis, but the implications are: various somatic reactions like hypochondriasis and neurasthenia; anxiety reactions like reactive depression; involutional melancholia, and agitated depression; hysteria, both anxiety and conversion types; and an anxiety state.

The Hs scale occurs most frequently in combination with the Hy scale and to a lesser extent with the Mf and Pa scale.

5. The Depression Scale (D)

The D scale measures the extent of the clinically recognized symptom complex-Depression. A high score indicates poor morale of the emotional type with a feeling of uselessness and an inability to assume a normal optimism toward the future resulting in slowing down of thought and action, and frequently by preoccupation with death and suicide. This scale plus Hs will identify most neurotics.

Depression among normal persons may be recognized by typical overcontrol, slow personal tempo, and inability to make decisions without hesitation. They are seen as conforming, conscientious, and responsible people, but with a lack of confidence in their own ability and a pessimism about their own future. They respect others, are permissive and accepting, but tend to avoid becoming involved in things and to maintain distance in their relationship with others.

6. The Hysteria Scale (Hy)

The Hy scale measures the extent to which the subject has developed conversion type hysteria symptoms. These may be general systematic complaints or more specific complaints such as paralyses, contractures, gastric, or intestinal, or cardiac symptoms. Weakness, fainting, or convulsions may be characteristic of high scores. These

subjects appear to use physical symptoms as a means of solving difficult conflicts or avoiding mature responsibilities. Physical symptoms are developed under stress. These cases are more immature psychologically than any other group. Normal persons with high Hy scales are prone to worry, and are judged to be enthusiastic, imaginative, impatient, inhibited and are often irresponsible. They display a high degree of intellectual ability and an ability to think for themselves. However, there is some lack of confidence, and a tendency to overreact, to overacticipate a situation and overplan for it.

7. The Psychopathic Deviate Scale (Pd)

The Pd scale measures the similarity of the subject to a group of persons whose main difficulty lies in their absence of deep emotional response, particularly in sexual and affectional display, their inability to profit from experience, and their disregard for social mores. These people are commonly likeable and intelligent. They may behave in a normal fashion for years between outbreaks. Lying, stealing, use of alcohol, drug addiction, and sexual immorality are the most frequent digressions. These acts are committed with little thought of gain for themselves and little worry over discovery. No therapy is especially effective.

The normal person with a high Pd score may be

described as accessible and socially active, talkative and verbal, generous, frank, and individualistic. However, the person with a tendency toward psychopathic deviation has a devaluative quality that is seen in the hostility and aggressiveness of their interpersonal relationship, and in their sarcastic and cynical manner, as well as an ostentatious and exhibitionistic tendency. A heightened Pd score among students may be due to their concern for social ills and an interest in changing them. The higher Pd score may also be due to a greater capacity for acknowledgment of and open expression of hostility toward authority. In most cases the Pd complex clusters around family discord, authority problems, social imperturbability, social alienation, and self-alienation. The female with a psychopathic deviate tendency is described as more tense and striving than men.

8. The Interest Scale (MF)

This scale measures a tendency or a pattern of masculine or feminine interests. A high score indicates an interest pattern of the opposite sex. This group shows considerably more uniformity than is found in the psychopathic personality as a whole. Persons with this pattern often engage in homoerotic practices as a part of their emotional makeup; however, many of these persons are too inhibited or full of conflicts to make any overt expression of sexual

preferences. Homosexuality must not be assumed because of a high score unless there is confirmatory evidence. The interest of these persons appear in their values and attitudes rather than in any homoerotic preferences. This is especially true of persons engaged in social welfare occupations.

9. The Paranoia Scale (Pa)

The Pa scale characterizes persons with a clinical pattern of suspiciousness, oversensitivity, and delusions of persecution. The set of delusional beliefs frequently include delusions of reference, influence and grandeur. Although persons with this pattern may appear to be oriented to reality and integrated in the relation of one delusion to another in their belief structure, they may show misperceptions or misinterpretations of their life situations that are out of keeping with their ability and intelligence. These characteristics may be associated with schizophrenics or those with depressive reactions, it is rarely seen in otherwise intact persons, and may be either temporary and reversible or long-standing and progressively involved. Scores between 70 and 80 must be checked by clinical judgment.

Among normal persons a high Pa individual may appear as sensitive, affectionate, emotional, and prone to worry. They are also characterized as peaceable, cooperative, and

as having wide interests. This picture of a person with a high Pa score in the moderate range changes markedly with the traits that are observed at higher ranges.

10. The Psychasthenia Scale (Pt)

The Pt scale measures the similarity of the subject to persons with phobias, compulsive behavior, some forms of abnormal fears, worrying, difficulties in concentrating, guilt feelings, and excessive vacillation in making decisions. Other features such as excessively high standards on morality or intellectual performance, self-critical or even self-debasing feelings and attitudes, and unemotional aloofness from some personal conflicts may also be noted. Scores between 70 and 80 should be checked by clinical judgment.

Persons with high Pt scores within the normal range may be described as sentimental, good-tempered, verbal, individualistic, and dissatisfied. They may be described as dull, formal, and unemotional, and have been rated as idealistic and insightful, but they also appear to be immature and quarrelsome. Women with high Pt scores have more neurotic components than men and are described as sensitive, prone to worry, emotional, and high strung. They are also seen to be conscientious and intuitive, with general aesthetic interests.

11. The Schizophrenia Scale (Sc)

The Sc scale is a measure of a pattern of bizarre and unusual thoughts or behavior. Most persons are constrained, cold, and apathetic or indifferent. They may also be described as remote, inaccessible, and sufficient unto themselves. Subjective life is split from reality so that the person cannot follow changes of mood in a situation. Inactivity may accompany withdrawal of interest from other people or external relationships. These persons frequently perform below the level expected of them on the basis of their training and ability.

The normal person with a high Sc score may not appear to be particularly deviant or withdrawn. Although they may be prone to worry, self-dissatisfied, and conscientious, there may also be little evidence of social or emotional disarticulation. They may be described as good-tempered, enthusiastic, frank and courageous. Emotionally, they may appear to be kind, sentimental and peaceable. Some of the schizophrenic quality is apparent in the discrepancy between the self-description of a person with a high Sc score and the description of him by other people. He may describe himself as enterprising, adventurous, talkative, and aggressive, but appear to others as mild and peaceable. Persons with higher Sc scores appear to be moody, stubborn, opinionated, autocratic, deceitful, disorderly, and impulsive.

12. The Hypomania Scale (Ma)

The Ma scale measures the personality characteristic of overactivity, emotional excitement, and flight of ideas. The activity may accomplish a great deal but is often inefficient and unproductive. The enthusiasm and overoptimism of persons with this pattern may lead them to undertake more than they can handle, so that the milder forms of hypomania may be difficult to distinguish from the behavior of ambitious, energetic normals. The mood of these persons may be good natured euphoria at times but they may be irritable and temper outbursts are frequent. The person may attempt to reform social practices, or stir up projects and then lose interest in them. In scores over 70 normality may be evaluated on the basis of the direction of overactivity.

13. The Social Introversion Scale (Si)

The Si scale is a measure of the general characteristics of introversion-extroversion as applied to social participation. Social introversion is characterized by withdrawal from social contacts and responsibilities. Little real interest in people is displayed. In contrast, social extroversion involves the seeking of social contacts and a sincere interest in people. A high score on the Si scale describes the person's uneasiness in social situations

or in dealing with others. The high scores also denies many impulses, temptations, and mental aberrations.

(These descriptions need to be used with circumspection, and with the understanding that each description will be modified by other high point scales that are a part of the profile pattern of each individual)

APPENDIX C

A BRIEF DESCRIPTION OF THE GUILFORD-ZIMMERMAN
TEMPERAMENT SURVEY TRAITS1. General Activity (G)

Hurrying, liveliness, production, efficiency and their opposites. A high score indicates strong drive energy. High activity may exaggerate other qualities, as a hostile person may be destructive if he is very active.

2. Restraint (R)

Serious, deliberate, controlled, and their opposites. A low score indicates a person who is carefree and may be unsuited for responsibility. A high score indicates an overly cautious person. The optimal score is in the average range, but in the direction of restraint.

3. Ascendance (A)

Leadership, social boldness, versus submissiveness and hesitation. Low scores indicate a lack of ability to direct or lead people.

4. Sociability (S)

Friendly, socially active, versus shyness, seclusiveness, a high score is desirable in persons entering the ministry.

5. Emotional Stability (E)

A high score indicates optimism, cheerfulness and general stability. A low score indicates depression and an instability that, in combination with other low scores, may suggest that clinical care is needed.

6. Objectivity (O)

A high score indicates that the person is able to see himself as others do. A low score suggests that he may be overly sensitive and unable to profit by criticism.

7. Friendliness (F)

Tact, respect for others, versus hostility, resentment and contempt for others. A high score may mean a lack of aggressive tendencies, even to the point of ineffectiveness. A low score means hostility.

8. Thoughtfulness (T)

Reflective, introverted, observing of self and others, mental poise, versus thoughtlessness and extroversion. Scores on the introverted side are preferable among ministers who have the duties of supervision.

9. Personal Relations (P)

This trait represents the quality of getting along with people at all levels. A high score indicates tolerance and understanding. A low score suggests criticalness and fault finding. A high score is desirable for ministers.

10. Masculinity (M)

A high score indicates an interest in masculine activities and is likely to be understood by men. A low score indicates a tendency toward feminine behavior and interests.

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